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TABLES

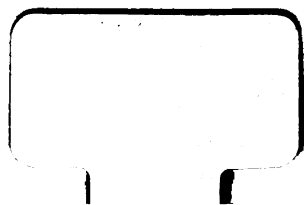
-U.S. Nautical Almanac 1917
GIVING

THE TIMES OF RISING AND SETTING
OF THE SUN AND MOON
1917 AND 1918

PUBLISHED BY THE NAUTICAL ALMANAC OFFICE,
U. S. NAVAL OBSERVATORY, UNDER THE AU-
THORITY OF THE SECRETARY OF THE NAVY.
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1917

U. S. NAVAL OBSERVATORY.

Capt. J. A. HOOGWERFF, *U. S. N., Superintendent.*

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PEREZ FISCH.	MORRIS LIFEROCK.

PIECEWORKERS.

<i>Elizabeth B. Davis.</i>	<i>George B. Merriman.</i>
<i>Janet McWilliam.</i>	<i>Frank E. Ross.</i>
<i>Hannah F. M. Hedrick.</i>	<i>Henry B. Hedrick.</i>
<i>Alfred Dookittle.</i>	<i>Thomas E. Trott.</i>
<i>Henry B. Evans.</i>	<i>Louis Lindsey.</i>

Isabel M. Lewis.

NOTE.—Those whose names are printed in italics devote only a small portion of their time to work of the Nautical Almanac Office.

November, 1916.

PREFACE.

It having been decided to include in future volumes of the *American Ephemeris and Nautical Almanac* and of the *American Nautical Almanac*, beginning with the editions for 1919, tables giving the times of rising and setting of the Sun and Moon in the form contained in the following pages, this supplement containing the corresponding tables for 1917 and 1918 is issued that information on this subject might be available for immediate use.

J. A. HOOGEWERFF,
Captain, U. S. N.,
Superintendent Naval Observatory.

WASHINGTON, *November, 1916.*

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1917.

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 24.

Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
Date.													
Jan.	0	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	1	18 0	18 17	18 35	18 56	19 8	19 22	19 39	19 59	20 8	20 19	20 32	20 46
	2	18 0	18 17	18 35	18 56	19 8	19 22	19 39	19 59	20 8	20 19	20 31	20 46
	3	18 1	18 18	18 36	18 56	19 8	19 22	19 39	19 59	20 8	20 19	20 31	20 45
	4	18 1	18 18	18 36	18 57	19 9	19 22	19 38	19 58	20 8	20 19	20 31	20 45
	5	18 2	18 19	18 36	18 57	19 9	19 22	19 38	19 58	20 8	20 18	20 30	20 44
	6	18 2	18 19	18 37	18 57	19 9	19 22	19 38	19 58	20 7	20 17	20 29	20 43
	7	18 3	18 19	18 37	18 57	19 9	19 22	19 38	19 57	20 6	20 17	20 28	20 42
	8	18 3	18 20	18 37	18 57	19 9	19 22	19 38	19 57	20 6	20 16	20 28	20 41
	9	18 4	18 20	18 37	18 57	19 9	19 22	19 37	19 56	20 6	20 16	20 27	20 40
	10	18 4	18 20	18 38	18 57	19 9	19 22	19 37	19 56	20 5	20 15	20 26	20 39
	11	18 5	18 21	18 38	18 57	19 9	19 22	19 37	19 55	20 4	20 14	20 25	20 38
	12	18 5	18 21	18 38	18 57	19 8	19 21	19 36	19 55	20 4	20 13	20 24	20 37
	13	18 5	18 21	18 38	18 57	19 8	19 21	19 36	19 54	20 3	20 12	20 23	20 36
	14	18 6	18 21	18 38	18 57	19 8	19 20	19 35	19 53	20 2	20 11	20 22	20 34
	15	18 6	18 22	18 38	18 57	19 8	19 20	19 35	19 53	20 1	20 10	20 21	20 33
	16	18 6	18 22	18 38	18 57	19 8	19 20	19 34	19 52	20 0	20 9	20 20	20 32
	17	18 7	18 22	18 38	18 56	19 7	19 19	19 34	19 51	19 59	20 8	20 19	20 30
	18	18 7	18 22	18 38	18 56	19 7	19 19	19 33	19 50	19 58	20 7	20 17	20 29
	19	18 7	18 22	18 38	18 56	19 6	19 18	19 32	19 49	19 57	20 6	20 16	20 27
	20	18 8	18 22	18 38	18 56	19 6	19 18	19 31	19 48	19 56	20 5	20 15	20 26
	21	18 8	18 22	18 38	18 55	19 6	19 17	19 31	19 47	19 55	20 3	20 13	20 24
	22	18 8	18 23	18 38	18 55	19 5	19 16	19 30	19 46	19 54	20 2	20 12	20 22
	23	18 8	18 23	18 38	18 55	19 4	19 16	19 29	19 45	19 52	20 1	20 10	20 21
	24	18 9	18 23	18 37	18 54	19 4	19 15	19 28	19 44	19 51	19 59	20 8	20 19
Feb.	25	18 9	18 23	18 37	18 54	19 4	19 14	19 27	19 43	19 50	19 58	20 7	20 17
	26	18 9	18 23	18 37	18 53	19 3	19 14	19 26	19 41	19 48	19 56	20 5	20 15
	27	18 9	18 23	18 37	18 53	19 2	19 13	19 25	19 40	19 47	19 55	20 4	20 13
	28	18 10	18 23	18 37	18 52	19 2	19 12	19 24	19 39	19 46	19 53	20 2	20 11
	29	18 10	18 23	18 36	18 52	19 1	19 11	19 23	19 37	19 44	19 52	20 0	20 9
	30	18 10	18 23	18 36	18 51	19 0	19 10	19 22	19 36	19 43	19 50	19 58	20 7
	31	18 10	18 23	18 36	18 51	19 0	19 9	19 21	19 35	19 41	19 48	19 56	20 5
	1	18 10	18 22	18 36	18 50	18 59	19 8	19 20	19 33	19 40	19 46	19 54	20 3
	2	18 10	18 22	18 35	18 50	18 58	19 7	19 18	19 32	19 38	19 45	19 52	20 1
	3	18 10	18 22	18 35	18 49	18 57	19 6	19 17	19 30	19 36	19 43	19 50	19 59
	4	18 10	18 22	18 34	18 48	18 56	19 5	19 16	19 29	19 35	19 41	19 48	19 57
	5	18 10	18 22	18 34	18 48	18 55	19 4	19 15	19 27	19 33	19 39	19 46	19 54
	6	18 11	18 22	18 34	18 47	18 55	19 3	19 13	19 26	19 31	19 37	19 44	19 52
	7	18 11	18 22	18 33	18 46	18 54	19 2	19 12	19 24	19 30	19 36	19 42	19 50
	8	18 11	18 21	18 33	18 46	18 53	19 1	19 11	19 22	19 28	19 34	19 40	19 48
	9	18 11	18 21	18 32	18 45	18 52	19 0	19 9	19 21	19 26	19 32	19 38	19 45
	10	18 11	18 21	18 32	18 44	18 51	18 59	19 8	19 19	19 24	19 30	19 36	19 43
	11	18 11	18 21	18 31	18 43	18 50	18 58	19 6	19 17	19 22	19 28	19 34	19 40
	12	18 11	18 20	18 31	18 42	18 49	18 56	19 5	19 16	19 20	19 26	19 31	19 38
	13	18 11	18 20	18 30	18 42	18 48	18 55	19 4	19 14	19 18	19 24	19 29	19 36
	14	18 11	18 20	18 30	18 41	18 47	18 54	19 2	19 12	19 16	19 21	19 27	19 33
	15	18 11	18 20	18 29	18 40	18 46	18 53	19 1	19 10	19 14	19 19	19 25	19 31

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunset in southern latitudes see page 24.

Lat. Date.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
Jan. 1	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
2	6 7	5 50	5 32	5 11	4 59	4 45	4 29	4 8	3 59	3 48	3 36	3 22	3 5
3	6 8	5 51	5 33	5 12	5 0	4 46	4 30	4 10	4 0	3 49	3 37	3 23	3 6
4	6 8	5 51	5 33	5 13	5 1	4 47	4 31	4 11	4 1	3 50	3 38	3 24	3 8
5	6 9	5 52	5 34	5 13	5 1	4 48	4 32	4 12	4 2	3 52	3 40	3 25	3 9
6	6 9	5 52	5 35	5 14	5 2	4 49	4 33	4 13	4 4	3 53	3 41	3 27	3 11
7	6 10	5 53	5 35	5 15	5 3	4 50	4 34	4 14	4 5	3 54	3 42	3 29	3 13
8	6 10	5 54	5 36	5 16	5 4	4 50	4 35	4 15	4 6	3 56	3 44	3 30	3 14
9	6 10	5 54	5 36	5 16	5 5	4 51	4 36	4 16	4 7	3 57	3 45	3 32	3 16
10	6 11	5 55	5 37	5 17	5 6	4 52	4 37	4 18	4 9	3 59	3 47	3 34	3 18
11	6 11	5 55	5 38	5 18	5 7	4 54	4 38	4 19	4 10	4 0	3 49	3 36	3 20
12	6 12	5 56	5 38	5 19	5 8	4 55	4 39	4 20	4 12	4 2	3 50	3 37	3 22
13	6 12	5 56	5 39	5 20	5 8	4 56	4 40	4 22	4 13	4 3	3 52	3 39	3 24
14	6 12	5 57	5 40	5 20	5 9	4 57	4 42	4 23	4 14	4 5	3 54	3 41	3 26
15	6 13	5 57	5 40	5 21	5 10	4 58	4 43	4 25	4 16	4 6	3 56	3 43	3 29
16	6 13	5 58	5 41	5 22	5 11	4 59	4 44	4 26	4 18	4 8	3 57	3 45	3 31
17	6 14	5 58	5 42	5 23	5 12	5 0	4 45	4 28	4 19	4 10	3 59	3 47	3 33
18	6 14	5 58	5 42	5 24	5 13	5 1	4 46	4 29	4 21	4 12	4 1	3 49	3 35
19	6 14	5 59	5 43	5 25	5 14	5 2	4 48	4 31	4 22	4 13	4 3	3 51	3 38
20	6 15	6 0	5 44	5 26	5 15	5 3	4 49	4 32	4 24	4 15	4 5	3 53	3 40
21	6 15	6 0	5 45	5 27	5 16	5 4	4 50	4 34	4 26	4 17	4 7	3 56	3 42
22	6 15	6 1	5 46	5 28	5 17	5 6	4 52	4 35	4 27	4 19	4 9	3 58	3 45
23	6 16	6 1	5 46	5 29	5 18	5 7	4 53	4 37	4 29	4 21	4 11	4 0	3 47
24	6 16	6 2	5 47	5 30	5 19	5 8	4 55	4 38	4 31	4 22	4 13	4 2	3 50
25	6 16	6 2	5 48	5 31	5 20	5 9	4 56	4 40	4 33	4 24	4 15	4 5	3 52
26	6 16	6 3	5 48	5 32	5 21	5 10	4 57	4 42	4 34	4 26	4 17	4 7	3 55
27	6 16	6 3	5 49	5 33	5 22	5 12	4 59	4 43	4 36	4 28	4 19	4 9	3 58
28	6 17	6 4	5 49	5 34	5 23	5 13	5 0	4 45	4 38	4 30	4 21	4 11	4 0
29	6 17	6 4	5 50	5 34	5 24	5 14	5 2	4 47	4 40	4 32	4 24	4 14	4 3
30	6 17	6 4	5 51	5 35	5 25	5 15	5 3	4 48	4 42	4 34	4 26	4 16	4 5
31	6 18	6 6	5 54	5 39	5 26	5 16	4 50	4 43	4 36	4 36	4 28	4 18	4 8
Feb. 1	6 17	6 4	5 51	5 36	5 27	5 17	5 6	4 52	4 45	4 38	4 30	4 21	4 10
2	6 18	6 5	5 52	5 37	5 28	5 19	5 7	4 53	4 47	4 40	4 32	4 23	4 13
3	6 18	6 5	5 52	5 38	5 29	5 20	5 9	4 55	4 49	4 42	4 34	4 26	4 16
4	6 18	6 6	5 53	5 38	5 30	5 21	5 10	4 57	4 51	4 44	4 36	4 28	4 18
5	6 18	6 6	5 54	5 39	5 31	5 22	5 12	4 59	4 53	4 46	4 39	4 30	4 20
6	6 18	6 6	5 54	5 40	5 32	5 23	5 13	5 0	4 54	4 48	4 41	4 33	4 24
7	6 18	6 7	5 55	5 41	5 33	5 25	5 14	5 2	4 56	4 50	4 43	4 35	4 26
8	6 18	6 7	5 55	5 42	5 34	5 26	5 16	5 4	4 58	4 52	4 45	4 38	4 29
9	6 18	6 7	5 56	5 43	5 35	5 27	5 17	5 5	5 0	4 54	4 47	4 40	4 31
10	6 18	6 7	5 56	5 44	5 36	5 28	5 19	5 7	5 2	4 56	4 50	4 42	4 34
11	6 18	6 8	5 57	5 44	5 37	5 29	5 20	5 9	5 4	4 58	4 52	4 45	4 37
12	6 18	6 8	5 57	5 45	5 38	5 31	5 22	5 11	5 6	5 0	4 54	4 47	4 39
13	6 18	6 8	5 58	5 46	5 39	5 32	5 23	5 12	5 8	5 2	4 56	4 50	4 42
14	6 18	6 8	5 58	5 47	5 40	5 33	5 24	5 14	5 9	5 4	4 58	4 52	4 45
15	6 18	6 8	5 59	5 48	5 41	5 34	5 26	5 16	5 11	5 6	5 0	4 54	4 47
16	6 18	6 9	5 59	5 48	5 42	5 35	5 27	5 18	5 13	5 8	5 3	4 57	4 50
17	6 18	6 9	6 0	5 49	5 43	5 36	5 29	5 19	5 15	5 10	5 5	4 59	4 52

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 24.

Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Feb.	15	18 11	18 20	18 29	18 40	18 46	18 53	19 1	19 10	19 14	19 19	19 25	19 31	19 37
	16	18 11	18 19	18 28	18 39	18 45	18 51	18 59	19 8	19 12	19 17	19 22	19 28	19 34
	17	18 11	18 19	18 28	18 38	18 44	18 50	18 57	19 6	19 10	19 15	19 20	19 26	19 32
	18	18 11	18 19	18 27	18 37	18 42	18 49	18 56	19 4	19 8	19 13	19 18	19 23	19 29
	19	18 10	18 18	18 27	18 36	18 41	18 47	18 54	19 3	19 6	19 11	19 15	19 20	19 26
	20	18 10	18 18	18 26	18 35	18 40	18 46	18 53	19 1	19 4	19 8	19 13	19 18	19 23
	21	18 10	18 18	18 25	18 34	18 39	18 44	18 51	18 59	19 2	19 6	19 10	19 15	19 20
	22	18 10	18 17	18 25	18 33	18 38	18 43	18 49	18 57	19 0	19 4	19 8	19 13	19 18
	23	18 10	18 17	18 24	18 32	18 37	18 42	18 48	18 55	18 58	19 2	19 6	19 10	19 15
	24	18 10	18 16	18 23	18 31	18 35	18 40	18 46	18 53	18 56	18 59	19 3	19 7	19 12
	25	18 10	18 16	18 22	18 30	18 34	18 39	18 44	18 51	18 54	18 57	19 1	19 5	19 9
	26	18 10	18 16	18 22	18 29	18 33	18 37	18 43	18 49	18 52	18 55	18 58	19 2	19 6
	27	18 9	18 15	18 21	18 28	18 32	18 36	18 41	18 47	18 50	18 52	18 56	18 59	19 3
	28	18 9	18 15	18 20	18 27	18 30	18 34	18 39	18 45	18 47	18 50	18 53	18 57	19 0
Mar.	1	18 9	18 14	18 20	18 26	18 29	18 33	18 37	18 43	18 45	18 48	18 51	18 54	18 58
	2	18 9	18 14	18 19	18 25	18 28	18 32	18 36	18 41	18 43	18 45	18 48	18 51	18 55
	3	18 9	18 13	18 18	18 23	18 27	18 30	18 34	18 39	18 41	18 43	18 46	18 48	18 52
	4	18 8	18 13	18 17	18 22	18 25	18 28	18 32	18 37	18 38	18 41	18 43	18 46	18 49
	5	18 8	18 12	18 16	18 21	18 24	18 27	18 30	18 34	18 36	18 38	18 40	18 43	18 46
	6	18 8	18 12	18 16	18 20	18 22	18 25	18 28	18 32	18 34	18 36	18 38	18 40	18 43
	7	18 8	18 11	18 15	18 19	18 21	18 24	18 27	18 30	18 32	18 33	18 35	18 37	18 40
	8	18 7	18 11	18 14	18 18	18 20	18 22	18 25	18 28	18 29	18 31	18 33	18 35	18 37
	9	18 7	18 10	18 13	18 17	18 19	18 21	18 23	18 26	18 27	18 29	18 30	18 32	18 34
	10	18 7	18 10	18 12	18 16	18 17	18 19	18 21	18 24	18 25	18 26	18 28	18 29	18 31
	11	18 7	18 9	18 12	18 14	18 16	18 18	18 19	18 22	18 23	18 24	18 25	18 26	18 28
	12	18 6	18 9	18 11	18 13	18 14	18 16	18 18	18 20	18 20	18 21	18 22	18 24	18 25
	13	18 6	18 8	18 10	18 12	18 13	18 14	18 16	18 17	18 18	18 19	18 20	18 21	18 22
	14	18 6	18 7	18 9	18 11	18 12	18 13	18 14	18 15	18 16	18 16	18 17	18 18	18 19
	15	18 6	18 7	18 8	18 10	18 10	18 11	18 12	18 13	18 13	18 14	18 14	18 15	18 16
	16	18 5	18 6	18 7	18 8	18 9	18 10	18 10	18 11	18 11	18 12	18 12	18 12	18 13
	17	18 5	18 6	18 6	18 7	18 8	18 8	18 8	18 9	18 9	18 9	18 9	18 10	18 10
	18	18 5	18 5	18 6	18 6	18 6	18 6	18 6	18 6	18 6	18 6	18 7	18 7	18 7
	19	18 4	18 5	18 5	18 5	18 5	18 5	18 4	18 4	18 4	18 4	18 4	18 4	18 4
	20	18 4	18 4	18 4	18 4	18 3	18 3	18 3	18 2	18 2	18 2	18 1	18 1	18 1
	21	18 4	18 3	18 3	18 2	18 2	18 1	18 1	18 0	18 0	17 59	17 59	17 58	17 58
	22	18 4	18 3	18 2	18 1	18 0	18 0	17 59	17 58	17 58	17 57	17 56	17 55	17 54
	23	18 3	18 2	18 1	18 0	17 59	17 58	17 57	17 56	17 55	17 54	17 53	17 53	17 52
	24	18 3	18 2	18 0	17 59	17 58	17 57	17 55	17 53	17 53	17 52	17 51	17 50	17 48
	25	18 2	18 1	17 59	17 57	17 56	17 55	17 53	17 51	17 50	17 49	17 48	17 47	17 46
	26	18 2	18 0	17 58	17 56	17 55	17 53	17 51	17 49	17 48	17 47	17 45	17 44	17 42
	27	18 2	18 0	17 58	17 55	17 54	17 52	17 50	17 47	17 46	17 44	17 43	17 41	17 39
	28	18 2	17 59	17 57	17 54	17 52	17 50	17 48	17 45	17 43	17 42	17 40	17 38	17 36
	29	18 1	17 59	17 56	17 53	17 51	17 48	17 46	17 42	17 41	17 39	17 38	17 36	17 33
	30	18 1	17 58	17 55	17 51	17 49	17 47	17 44	17 40	17 39	17 37	17 35	17 33	17 30
	31	18 1	17 58	17 54	17 50	17 48	17 45	17 42	17 38	17 36	17 34	17 32	17 30	17 27
Apr.	1	18 0	17 57	17 53	17 49	17 46	17 44	17 40	17 36	17 34	17 32	17 30	17 27	17 24
	2	18 0	17 57	17 52	17 48	17 45	17 42	17 38	17 34	17 32	17 30	17 27	17 24	17 21

TABLE I.

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunset in southern latitudes see page 24.

Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Feb.	16	6 18	6 9	6 0	5 49	5 43	5 36	5 29	5 19	5 15	5 10	5 5	4 59	4 52
	17	6 18	6 9	6 0	5 50	5 44	5 38	5 30	5 21	5 17	5 12	5 7	5 1	4 55
	18	6 18	6 9	6 0	5 51	5 45	5 39	5 31	5 23	5 19	5 14	5 9	5 4	4 58
	19	6 17	6 9	6 1	5 51	5 46	5 40	5 33	5 24	5 20	5 16	5 11	5 6	5 0
	20	6 17	6 10	6 1	5 52	5 47	5 41	5 34	5 26	5 22	5 18	5 14	5 8	5 3
	21	6 17	6 10	6 2	5 53	5 48	5 42	5 36	5 28	5 24	5 20	5 16	5 11	5 6
	22	6 17	6 10	6 2	5 54	5 49	5 43	5 37	5 30	5 26	5 22	5 18	5 13	5 8
	23	6 17	6 10	6 3	5 54	5 50	5 45	5 38	5 31	5 28	5 24	5 20	5 16	5 11
	24	6 17	6 10	6 3	5 55	5 51	5 46	5 40	5 33	5 30	5 26	5 22	5 18	5 13
	25	6 17	6 10	6 4	5 56	5 52	5 47	5 41	5 35	5 32	5 28	5 24	5 20	5 16
	26	6 16	6 10	6 4	5 57	5 53	5 48	5 43	5 36	5 33	5 30	5 27	5 23	5 18
	27	6 16	6 10	6 4	5 57	5 53	5 49	5 44	5 38	5 35	5 32	5 29	5 25	5 21
	28	6 16	6 10	6 5	5 58	5 54	5 50	5 45	5 40	5 37	5 34	5 31	5 27	5 23
	Mar. 1	6 16	6 10	6 5	5 59	5 55	5 51	5 47	5 41	5 39	5 36	5 33	5 30	5 26
	2	6 16	6 11	6 5	6 0	5 56	5 52	5 48	5 43	5 41	5 38	5 35	5 32	5 28
	3	6 15	6 11	6 6	6 0	5 57	5 53	5 49	5 44	5 42	5 40	5 37	5 34	5 31
	4	6 15	6 11	6 6	6 1	5 58	5 55	5 51	5 46	5 44	5 42	5 39	5 37	5 34
	5	6 15	6 11	6 6	6 2	5 59	5 56	5 52	5 48	5 46	5 44	5 42	5 39	5 36
	6	6 15	6 11	6 7	6 2	6 0	5 57	5 53	5 49	5 48	5 46	5 44	5 41	5 38
	7	6 15	6 11	6 7	6 3	6 0	5 58	5 55	5 51	5 50	5 48	5 46	5 44	5 41
	8	6 14	6 11	6 7	6 4	6 1	5 59	5 56	5 53	5 51	5 50	5 48	5 46	5 44
	9	6 14	6 11	6 8	6 4	6 2	6 0	5 57	5 54	5 53	5 52	5 50	5 48	5 46
	10	6 14	6 11	6 8	6 5	6 3	6 1	5 59	5 56	5 55	5 53	5 52	5 50	5 48
	11	6 14	6 11	6 8	6 5	6 4	6 2	6 0	5 58	5 56	5 55	5 54	5 52	5 51
	12	6 13	6 11	6 9	6 6	6 5	6 3	6 1	5 59	5 58	5 57	5 56	5 55	5 53
	13	6 13	6 11	6 9	6 7	6 5	6 4	6 3	6 1	6 0	5 59	5 58	5 57	5 56
	14	6 13	6 11	6 9	6 7	6 6	6 5	6 4	6 2	6 2	6 1	6 0	5 59	5 58
	15	6 12	6 11	6 10	6 8	6 7	6 6	6 5	6 4	6 4	6 3	6 2	6 2	6 1
	16	6 12	6 11	6 10	6 9	6 8	6 7	6 6	6 6	6 5	6 5	6 4	6 4	6 3
	17	6 12	6 11	6 10	6 9	6 9	6 8	6 8	6 7	6 7	6 7	6 6	6 6	6 6
	18	6 12	6 11	6 10	6 10	6 10	6 9	6 9	6 9	6 9	6 9	6 8	6 8	6 8
	19	6 11	6 11	6 11	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 10	6 11	6 11
	20	6 11	6 11	6 11	6 11	6 11	6 11	6 12	6 12	6 12	6 12	6 12	6 13	6 13
	21	6 11	6 11	6 11	6 12	6 12	6 12	6 13	6 14	6 14	6 14	6 14	6 15	6 15
	22	6 10	6 11	6 12	6 13	6 13	6 13	6 14	6 15	6 16	6 16	6 17	6 17	6 18
	23	6 10	6 11	6 12	6 13	6 14	6 14	6 16	6 17	6 17	6 18	6 19	6 20	6 20
	24	6 10	6 11	6 12	6 14	6 14	6 16	6 17	6 18	6 19	6 20	6 21	6 22	6 23
	25	6 9	6 11	6 12	6 14	6 15	6 16	6 18	6 20	6 21	6 22	6 23	6 24	6 25
	26	6 9	6 11	6 13	6 15	6 16	6 18	6 19	6 22	6 22	6 24	6 25	6 26	6 28
	27	6 9	6 11	6 13	6 15	6 17	6 18	6 21	6 23	6 24	6 26	6 27	6 28	6 30
	28	6 8	6 11	6 13	6 16	6 18	6 20	6 22	6 25	6 26	6 27	6 29	6 31	6 32
	29	6 8	6 11	6 13	6 17	6 19	6 20	6 23	6 26	6 28	6 29	6 30	6 33	6 35
	30	6 8	6 11	6 14	6 17	6 19	6 22	6 24	6 28	6 29	6 31	6 33	6 35	6 37
	31	6 8	6 11	6 14	6 18	6 20	6 22	6 26	6 29	6 31	6 33	6 35	6 37	6 40
	Apr. 1	6 7	6 11	6 14	6 18	6 21	6 24	6 27	6 31	6 33	6 35	6 37	6 40	6 42
	2	6 7	6 10	6 14	6 19	6 22	6 24	6 28	6 32	6 34	6 37	6 39	6 42	6 45
	3	6 7	6 10	6 15	6 20	6 22	6 26	6 29	6 34	6 36	6 38	6 41	6 44	6 47

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 24.

Lat. Data.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
Apr. 1	h m 18 0	h m 17 57	h m 17 53	h m 17 49	h m 17 46	h m 17 44	h m 17 40	h m 17 36	h m 17 34	h m 17 32	h m 17 30	h m 17 27	h m 17 24
2	18 0	17 57	17 52	17 48	17 45	17 42	17 38	17 34	17 32	17 30	17 27	17 24	17 21
3	18 0	17 56	17 52	17 47	17 44	17 40	17 36	17 32	17 30	17 27	17 24	17 21	17 18
4	18 0	17 55	17 51	17 45	17 42	17 39	17 34	17 30	17 27	17 25	17 22	17 19	17 15
5	17 59	17 55	17 50	17 44	17 41	17 37	17 33	17 27	17 25	17 22	17 19	17 16	17 12
6	17 59	17 54	17 49	17 43	17 40	17 36	17 31	17 25	17 23	17 20	17 16	17 13	17 9
7	17 59	17 54	17 48	17 42	17 38	17 34	17 29	17 23	17 20	17 17	17 14	17 10	17 6
8	17 58	17 53	17 48	17 41	17 37	17 32	17 27	17 21	17 18	17 15	17 11	17 8	17 3
9	17 58	17 52	17 47	17 40	17 36	17 31	17 25	17 19	17 16	17 12	17 9	17 5	17 0
10	17 58	17 52	17 46	17 38	17 34	17 29	17 24	17 17	17 14	17 10	17 6	17 2	16 57
11	17 58	17 52	17 45	17 37	17 33	17 28	17 22	17 15	17 11	17 8	17 4	16 59	16 54
12	17 57	17 51	17 44	17 36	17 32	17 26	17 20	17 13	17 9	17 5	17 1	16 56	16 51
13	17 57	17 50	17 43	17 35	17 30	17 25	17 18	17 11	17 7	17 3	16 59	16 54	16 48
14	17 57	17 50	17 42	17 34	17 29	17 23	17 16	17 8	17 5	17 1	16 56	16 51	16 45
15	17 57	17 50	17 42	17 33	17 28	17 22	17 15	17 6	17 2	16 58	16 54	16 48	16 42
16	17 56	17 49	17 41	17 32	17 26	17 20	17 13	17 4	17 0	16 56	16 51	16 46	16 39
17	17 56	17 48	17 40	17 31	17 25	17 19	17 11	17 2	16 58	16 54	16 48	16 43	16 36
18	17 56	17 48	17 39	17 30	17 24	17 17	17 10	17 0	16 56	16 51	16 46	16 40	16 33
19	17 56	17 47	17 39	17 29	17 23	17 16	17 8	16 58	16 54	16 49	16 44	16 38	16 30
20	17 55	17 47	17 38	17 28	17 21	17 14	17 6	16 56	16 52	16 47	16 41	16 35	16 28
21	17 55	17 46	17 37	17 26	17 20	17 13	17 4	16 54	16 50	16 44	16 39	16 32	16 25
22	17 55	17 46	17 36	17 25	17 19	17 12	17 3	16 52	16 48	16 42	16 36	16 29	16 22
23	17 55	17 46	17 36	17 24	17 18	17 10	17 1	16 50	16 46	16 40	16 34	16 27	16 19
24	17 55	17 45	17 35	17 24	17 17	17 9	17 0	16 49	16 43	16 38	16 31	16 24	16 16
25	17 54	17 45	17 34	17 22	17 15	17 7	16 58	16 47	16 41	16 35	16 29	16 22	16 13
26	17 54	17 44	17 34	17 21	17 14	17 6	16 56	16 45	16 39	16 33	16 26	16 19	16 10
27	17 54	17 44	17 33	17 20	17 13	17 5	16 55	16 43	16 37	16 31	16 24	16 17	16 8
28	17 54	17 44	17 32	17 20	17 12	17 3	16 53	16 41	16 35	16 29	16 22	16 14	16 5
29	17 54	17 43	17 32	17 19	17 11	17 2	16 52	16 39	16 33	16 27	16 20	16 12	16 2
30	17 54	17 43	17 31	17 18	17 10	17 1	16 50	16 38	16 31	16 25	16 17	16 9	15 59
May 1	17 54	17 42	17 31	17 17	17 9	17 0	16 49	16 36	16 30	16 23	16 15	16 6	15 57
2	17 53	17 42	17 30	17 16	17 8	16 58	16 47	16 34	16 28	16 21	16 13	16 4	15 54
3	17 53	17 42	17 29	17 15	17 7	16 57	16 46	16 32	16 26	16 18	16 11	16 2	15 51
4	17 53	17 42	17 29	17 14	17 6	16 56	16 44	16 30	16 24	16 17	16 8	15 59	15 49
5	17 53	17 41	17 28	17 13	17 5	16 55	16 43	16 29	16 22	16 15	16 6	15 57	15 46
6	17 53	17 41	17 28	17 12	17 4	16 54	16 42	16 27	16 20	16 13	16 4	15 54	15 43
7	17 53	17 40	17 27	17 12	17 3	16 52	16 40	16 25	16 18	16 11	16 2	15 52	15 41
8	17 53	17 40	17 27	17 11	17 2	16 51	16 39	16 24	16 17	16 9	16 0	15 50	15 38
9	17 53	17 40	17 26	17 10	17 1	16 50	16 38	16 22	16 15	16 7	15 58	15 48	15 36
10	17 53	17 40	17 26	17 10	17 0	16 49	16 36	16 21	16 13	16 5	15 56	15 45	15 33
11	17 53	17 40	17 25	17 9	16 59	16 48	16 35	16 19	16 12	16 3	15 54	15 43	15 31
12	17 53	17 39	17 25	17 8	16 58	16 47	16 34	16 18	16 10	16 2	15 52	15 41	15 28
13	17 53	17 39	17 24	17 8	16 58	16 46	16 33	16 16	16 8	16 0	15 50	15 39	15 26
14	17 53	17 39	17 24	17 7	16 57	16 45	16 32	16 15	16 7	15 58	15 48	15 37	15 24
15	17 53	17 39	17 24	17 6	16 56	16 44	16 30	16 13	16 5	15 56	15 46	15 35	15 21
16	17 53	17 39	17 23	17 6	16 55	16 44	16 29	16 12	16 4	15 55	15 44	15 33	15 19
17	17 53	17 38	17 23	17 5	16 54	16 42	16 28	16 11	16 2	15 53	15 43	15 30	15 17

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1917.

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For sunset in southern latitudes see page 24.

Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
Apr.	2	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	3	6 7	6 10	6 14	6 19	6 22	6 24	6 28	6 32	6 34	6 37	6 39	6 42	6 45
	4	6 6	6 10	6 15	6 20	6 23	6 26	6 31	6 36	6 38	6 40	6 43	6 46	6 50
	5	6 6	6 10	6 15	6 21	6 24	6 28	6 32	6 37	6 40	6 42	6 45	6 48	6 52
	6	6 6	6 10	6 16	6 21	6 25	6 29	6 33	6 39	6 41	6 44	6 47	6 51	6 54
	7	6 6	6 10	6 16	6 22	6 25	6 30	6 34	6 40	6 43	6 46	6 49	6 53	6 57
	8	6 5	6 10	6 16	6 23	6 26	6 31	6 36	6 42	6 45	6 48	6 51	6 55	6 59
	9	6 5	6 10	6 16	6 23	6 27	6 32	6 37	6 43	6 46	6 50	6 53	6 57	7 2
	10	6 5	6 10	6 17	6 24	6 28	6 33	6 38	6 45	6 48	6 51	6 55	6 59	7 4
	11	6 5	6 10	6 17	6 24	6 29	6 34	6 40	6 46	6 50	6 53	6 57	7 2	7 7
	12	6 4	6 10	6 17	6 25	6 29	6 35	6 41	6 48	6 51	6 55	6 59	7 4	7 9
	13	6 4	6 10	6 17	6 26	6 30	6 36	6 42	6 50	6 53	6 57	7 1	7 6	7 12
	14	6 4	6 10	6 18	6 26	6 31	6 37	6 43	6 51	6 55	6 59	7 3	7 8	7 14
	15	6 4	6 10	6 18	6 27	6 32	6 38	6 45	6 53	6 57	7 1	7 5	7 10	7 16
	16	6 3	6 10	6 18	6 27	6 33	6 39	6 46	6 54	6 58	7 3	7 7	7 13	7 19
	17	6 3	6 10	6 19	6 28	6 33	6 40	6 47	6 56	7 0	7 4	7 9	7 15	7 21
	18	6 3	6 10	6 19	6 29	6 34	6 41	6 48	6 57	7 2	7 6	7 12	7 17	7 24
	19	6 3	6 11	6 19	6 29	6 35	6 42	6 50	6 59	7 3	7 8	7 14	7 20	7 26
	20	6 2	6 11	6 20	6 30	6 36	6 43	6 51	7 0	7 5	7 10	7 16	7 22	7 29
	21	6 2	6 11	6 20	6 30	6 37	6 44	6 52	7 2	7 7	7 12	7 18	7 24	7 31
	22	6 2	6 11	6 20	6 31	6 38	6 45	6 53	7 4	7 8	7 14	7 20	7 26	7 34
	23	6 2	6 11	6 20	6 32	6 38	6 46	6 55	7 5	7 10	7 16	7 22	7 28	7 36
	24	6 2	6 11	6 21	6 32	6 39	6 47	6 56	7 7	7 12	7 18	7 24	7 31	7 39
	25	6 2	6 11	6 21	6 33	6 40	6 48	6 57	7 8	7 14	7 19	7 26	7 33	7 41
	26	6 1	6 11	6 22	6 34	6 41	6 49	6 58	7 10	7 15	7 21	7 28	7 35	7 44
May	27	6 1	6 11	6 22	6 34	6 42	6 50	7 0	7 11	7 17	7 23	7 30	7 38	7 46
	28	6 1	6 11	6 22	6 35	6 42	6 51	7 1	7 13	7 19	7 25	7 32	7 40	7 49
	29	6 1	6 11	6 22	6 36	6 43	6 52	7 2	7 14	7 20	7 27	7 34	7 42	7 51
	30	6 1	6 11	6 23	6 36	6 44	6 53	7 3	7 16	7 22	7 29	7 36	7 44	7 54
	1	6 0	6 11	6 23	6 37	6 45	6 54	7 5	7 18	7 24	7 30	7 38	7 46	7 56
	2	6 0	6 12	6 24	6 38	6 46	6 55	7 6	7 19	7 25	7 32	7 40	7 49	7 58
	3	6 0	6 12	6 24	6 38	6 46	6 56	7 7	7 21	7 27	7 34	7 42	7 51	8 1
	4	6 0	6 12	6 24	6 39	6 47	6 57	7 8	7 22	7 29	7 36	7 44	7 53	8 4
	5	6 0	6 12	6 25	6 40	6 48	6 58	7 10	7 24	7 30	7 38	7 46	7 55	8 6
	6	6 0	6 12	6 25	6 40	6 49	6 59	7 11	7 25	7 32	7 40	7 48	7 57	8 8
	7	6 0	6 12	6 26	6 41	6 50	7 0	7 12	7 27	7 34	7 41	7 50	8 0	8 11
	8	6 0	6 12	6 26	6 41	6 50	7 1	7 13	7 28	7 35	7 43	7 52	8 2	8 13
	9	6 0	6 13	6 26	6 42	6 51	7 2	7 14	7 30	7 37	7 45	7 54	8 4	8 16
	10	6 0	6 13	6 27	6 43	6 52	7 3	7 16	7 31	7 38	7 47	7 56	8 6	8 18
	11	6 0	6 13	6 27	6 43	6 53	7 4	7 17	7 33	7 40	7 48	7 58	8 8	8 21
	12	6 0	6 13	6 28	6 44	6 54	7 5	7 18	7 34	7 42	7 50	8 0	8 10	8 23
	13	6 0	6 13	6 28	6 45	6 54	7 6	7 19	7 36	7 43	7 52	8 2	8 13	8 25
	14	6 0	6 13	6 28	6 45	6 55	7 7	7 20	7 37	7 45	7 54	8 3	8 15	8 28
	15	6 0	6 14	6 29	6 46	6 56	7 8	7 22	7 38	7 46	7 55	8 5	8 17	8 30
	16	6 0	6 14	6 29	6 46	6 57	7 9	7 23	7 40	7 48	7 57	8 7	8 19	8 32
	17	6 0	6 14	6 29	6 47	6 58	7 10	7 24	7 41	7 49	7 58	8 9	8 21	8 35
	18	6 0	6 14	6 30	6 48	6 58	7 10	7 25	7 42	7 51	8 0	8 11	8 23	8 37

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 24.

Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
May	17	17 53	17 38	17 23	17 5	16 54	16 42	16 28	16 11	16 2	15 53	15 43	15 30	15 17
	18	17 53	17 38	17 23	17 4	16 54	16 42	16 27	16 10	16 1	15 52	15 41	15 29	15 14
	19	17 53	17 38	17 22	17 4	16 53	16 41	16 26	16 8	16 0	15 50	15 39	15 27	15 12
	20	17 53	17 38	17 22	17 4	16 53	16 40	16 25	16 7	15 58	15 49	15 38	15 25	15 10
	21	17 53	17 38	17 22	17 3	16 52	16 39	16 24	16 6	15 57	15 47	15 36	15 23	15 8
	22	17 53	17 38	17 21	17 2	16 51	16 38	16 23	16 5	15 56	15 46	15 34	15 21	15 6
	23	17 53	17 38	17 21	17 2	16 51	16 38	16 23	16 4	15 54	15 44	15 33	15 20	15 4
	24	17 53	17 38	17 21	17 2	16 50	16 37	16 22	16 2	15 53	15 43	15 31	15 18	15 2
	25	17 53	17 38	17 21	17 1	16 50	16 37	16 21	16 1	15 52	15 42	15 30	15 16	15 0
	26	17 53	17 38	17 21	17 1	16 49	16 36	16 20	16 0	15 51	15 41	15 28	15 15	14 58
	27	17 54	17 38	17 20	17 0	16 49	16 35	16 19	16 0	15 50	15 40	15 27	15 13	14 56
	28	17 54	17 37	17 20	17 0	16 48	16 35	16 19	15 59	15 49	15 38	15 26	15 12	14 55
	29	17 54	17 37	17 20	17 0	16 48	16 34	16 18	15 57	15 48	15 37	15 25	15 10	14 53
	30	17 54	17 38	17 20	17 0	16 48	16 34	16 17	15 57	15 47	15 36	15 24	15 9	14 51
	31	17 54	17 38	17 20	16 59	16 47	16 33	16 17	15 56	15 46	15 35	15 22	15 8	14 50
June	1	17 54	17 38	17 20	16 59	16 47	16 33	16 16	15 55	15 45	15 34	15 21	15 6	14 48
	2	17 54	17 38	17 20	16 59	16 47	16 32	16 16	15 55	15 45	15 33	15 20	15 5	14 47
	3	17 54	17 38	17 20	16 59	16 46	16 32	16 15	15 54	15 44	15 32	15 19	15 4	14 46
	4	17 55	17 38	17 20	16 58	16 46	16 32	16 15	15 53	15 43	15 32	15 18	15 3	14 44
	5	17 55	17 38	17 20	16 58	16 46	16 32	16 14	15 53	15 42	15 31	15 18	15 2	14 43
	6	17 55	17 38	17 20	16 58	16 46	16 31	16 14	15 52	15 42	15 30	15 17	15 1	14 42
	7	17 55	17 38	17 20	16 58	16 46	16 31	16 14	15 52	15 41	15 30	15 16	15 0	14 41
	8	17 55	17 38	17 20	16 58	16 46	16 31	16 13	15 52	15 41	15 29	15 15	14 59	14 40
	9	17 56	17 38	17 20	16 58	16 45	16 31	16 13	15 51	15 40	15 29	15 15	14 59	14 39
	10	17 56	17 38	17 20	16 58	16 45	16 30	16 13	15 51	15 40	15 28	15 14	14 58	14 38
	11	17 56	17 38	17 20	16 58	16 45	16 30	16 13	15 50	15 40	15 28	15 14	14 57	14 38
	12	17 56	17 39	17 20	16 58	16 45	16 30	16 12	15 50	15 40	15 27	15 13	14 57	14 37
	13	17 56	17 39	17 20	16 58	16 45	16 30	16 12	15 50	15 39	15 27	15 13	14 56	14 36
	14	17 56	17 39	17 20	16 58	16 45	16 30	16 12	15 50	15 39	15 27	15 13	14 56	14 36
	15	17 57	17 39	17 20	16 58	16 45	16 30	16 12	15 50	15 39	15 27	15 13	14 56	14 36
	16	17 57	17 39	17 20	16 58	16 45	16 30	16 12	15 50	15 39	15 27	15 12	14 56	14 35
	17	17 57	17 40	17 20	16 59	16 45	16 30	16 12	15 50	15 39	15 27	15 12	14 56	14 35
	18	17 57	17 40	17 21	16 59	16 46	16 30	16 12	15 50	15 39	15 27	15 12	14 56	14 35
	19	17 58	17 40	17 21	16 59	16 46	16 31	16 13	15 50	15 39	15 27	15 12	14 56	14 35
	20	17 58	17 40	17 21	16 59	16 46	16 31	16 13	15 50	15 39	15 27	15 13	14 56	14 35
	21	17 58	17 40	17 21	16 59	16 46	16 31	16 13	15 50	15 40	15 27	15 13	14 56	14 36
	22	17 58	17 41	17 22	17 0	16 46	16 31	16 13	15 51	15 40	15 27	15 13	14 56	14 36
	23	17 58	17 41	17 22	17 0	16 47	16 32	16 14	15 51	15 40	15 28	15 14	14 57	14 36
	24	17 59	17 41	17 22	17 0	16 47	16 32	16 14	15 51	15 40	15 28	15 14	14 57	14 37
	25	17 59	17 41	17 22	17 0	16 47	16 32	16 14	15 52	15 41	15 29	15 14	14 58	14 37
	26	17 59	17 41	17 22	17 0	16 48	16 33	16 15	15 52	15 41	15 29	15 15	14 58	14 38
	27	17 59	17 42	17 23	17 1	16 48	16 33	16 15	15 53	15 42	15 30	15 15	14 59	14 38
	28	17 59	17 42	17 23	17 1	16 48	16 33	16 16	15 53	15 42	15 30	15 16	15 0	14 39
	29	18 0	17 42	17 23	17 2	16 49	16 34	16 16	15 54	15 43	15 31	15 17	15 0	14 40
	30	18 0	17 42	17 24	17 2	16 49	16 34	16 16	15 54	15 44	15 32	15 18	15 1	14 41
July	1	18 0	17 43	17 24	17 2	16 50	16 35	16 17	15 55	15 44	15 32	15 18	15 2	14 42
	2	18 0	17 43	17 24	17 3	16 50	16 35	16 18	15 56	15 45	15 33	15 19	15 3	14 43

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunset in southern latitudes see page 24.

Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
May	18	6 0	6 14	6 30	6 48	6 58	7 10	7 25	7 42	7 51	8 0	8 11	8 23	8 37
	19	6 0	6 14	6 30	6 48	6 59	7 11	7 26	7 44	7 52	8 2	8 13	8 25	8 39
	20	6 0	6 15	6 31	6 49	7 0	7 12	7 27	7 45	7 54	8 3	8 14	8 27	8 42
	21	6 0	6 15	6 31	6 50	7 1	7 13	7 28	7 46	7 55	8 5	8 16	8 29	8 44
	22	6 0	6 15	6 31	6 50	7 1	7 14	7 29	7 48	7 57	8 6	8 18	8 31	8 46
	23	6 0	6 15	6 32	6 51	7 2	7 15	7 30	7 49	7 58	8 8	8 20	8 33	8 48
	24	6 0	6 16	6 32	6 52	7 3	7 16	7 31	7 50	7 59	8 10	8 21	8 35	8 50
	25	6 0	6 16	6 33	6 52	7 4	7 17	7 32	7 52	8 1	8 11	8 23	8 36	8 52
	26	6 0	6 16	6 33	6 53	7 4	7 17	7 33	7 53	8 2	8 12	8 24	8 38	8 55
	27	6 0	6 16	6 34	6 53	7 5	7 18	7 34	7 54	8 3	8 14	8 26	8 40	8 57
June	28	6 1	6 17	6 34	6 54	7 6	7 19	7 35	7 55	8 5	8 15	8 28	8 42	8 59
	29	6 1	6 17	6 34	6 54	7 6	7 20	7 36	7 56	8 6	8 17	8 29	8 44	9 1
	30	6 1	6 17	6 35	6 55	7 7	7 21	7 37	7 57	8 7	8 18	8 31	8 45	9 3
	31	6 1	6 17	6 35	6 56	7 8	7 21	7 38	7 58	8 8	8 19	8 32	8 47	9 4
	1	6 1	6 18	6 35	6 56	7 8	7 22	7 39	8 0	8 9	8 20	8 34	8 48	9 6
	2	6 1	6 18	6 36	6 57	7 9	7 23	7 40	8 0	8 10	8 22	8 35	8 50	9 8
	3	6 2	6 18	6 36	6 57	7 9	7 24	7 40	8 2	8 12	8 23	8 36	8 51	9 10
	4	6 2	6 18	6 37	6 58	7 10	7 24	7 41	8 2	8 13	8 24	8 37	8 53	9 11
	5	6 2	6 19	6 37	6 58	7 10	7 25	7 42	8 3	8 14	8 25	8 39	8 54	9 13
	6	6 2	6 19	6 37	6 59	7 11	7 26	7 43	8 4	8 15	8 26	8 40	8 55	9 14
July	7	6 2	6 19	6 38	6 59	7 12	7 26	7 43	8 5	8 16	8 27	8 41	8 56	9 16
	8	6 2	6 20	6 38	7 0	7 12	7 27	7 44	8 6	8 16	8 28	8 42	8 58	9 17
	9	6 3	6 20	6 38	7 0	7 13	7 27	7 45	8 7	8 17	8 29	8 43	8 59	9 18
	10	6 3	6 20	6 39	7 0	7 13	7 28	7 46	8 7	8 18	8 30	8 44	9 0	9 20
	11	6 3	6 20	6 39	7 1	7 14	7 28	7 45	8 8	8 19	8 31	8 45	9 1	9 21
	12	6 3	6 21	6 39	7 1	7 14	7 29	7 46	8 9	8 19	8 32	8 46	9 2	9 22
	13	6 4	6 21	6 40	7 2	7 14	7 29	7 47	8 9	8 20	8 32	8 46	9 3	9 23
	14	6 4	6 21	6 40	7 2	7 15	7 30	7 48	8 10	8 21	8 33	8 47	9 4	9 24
	15	6 4	6 21	6 40	7 2	7 15	7 30	7 48	8 10	8 21	8 34	8 48	9 4	9 25
	16	6 4	6 22	6 41	7 2	7 16	7 31	7 48	8 11	8 22	8 34	8 48	9 5	9 25
July	17	6 4	6 22	6 41	7 3	7 16	7 31	7 49	8 11	8 22	8 34	8 49	9 6	9 26
	18	6 4	6 22	6 41	7 3	7 16	7 31	7 49	8 12	8 23	8 35	8 49	9 6	9 26
	19	6 5	6 22	6 41	7 4	7 17	7 32	7 50	8 12	8 23	8 35	8 50	9 6	9 27
	20	6 5	6 22	6 42	7 4	7 17	7 32	7 50	8 12	8 23	8 36	8 50	9 7	9 27
	21	6 5	6 23	6 42	7 4	7 17	7 32	7 50	8 13	8 24	8 36	8 50	9 7	9 28
	22	6 5	6 23	6 42	7 4	7 17	7 32	7 50	8 13	8 24	8 36	8 50	9 7	9 28
	23	6 6	6 23	6 42	7 4	7 17	7 32	7 50	8 13	8 24	8 36	8 51	9 7	9 28
	24	6 6	6 23	6 42	7 4	7 18	7 33	7 50	8 13	8 24	8 36	8 51	9 8	9 28
	25	6 6	6 24	6 42	7 5	7 18	7 33	7 51	8 13	8 24	8 36	8 51	9 8	9 28
	26	6 6	6 24	6 43	7 5	7 18	7 33	7 51	8 13	8 24	8 36	8 51	9 7	9 28
July	27	6 6	6 24	6 43	7 5	7 18	7 33	7 51	8 13	8 24	8 36	8 50	9 7	9 27
	28	6 7	6 24	6 43	7 5	7 18	7 33	7 51	8 13	8 24	8 36	8 50	9 7	9 27
	29	6 7	6 24	6 43	7 5	7 18	7 33	7 50	8 13	8 24	8 36	8 50	9 7	9 27
	30	6 7	6 24	6 43	7 5	7 18	7 33	7 50	8 13	8 24	8 36	8 50	9 6	9 26
	1	6 7	6 25	6 43	7 5	7 18	7 33	7 50	8 13	8 23	8 35	8 49	9 6	9 26
	2	6 8	6 25	6 43	7 5	7 18	7 33	7 50	8 12	8 23	8 35	8 49	9 5	9 25
	3	6 8	6 25	6 43	7 5	7 18	7 32	7 50	8 12	8 22	8 34	8 48	9 4	9 24

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of min the station is west of the standard meridian, or decrease the local time by the number of min the station is east of the standard meridian.

For sunrise in southern latitudes see page 24.

Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
July	1	18 0	17 43	17 24	17 2	16 50	16 35	16 17	15 55	15 44	15 32	15 18	15 2	14 14
	2	18 0	17 43	17 24	17 3	16 50	16 35	16 18	15 56	15 45	15 33	15 19	15 3	14 14
	3	18 0	17 43	17 25	17 3	16 50	16 36	16 18	15 56	15 46	15 34	15 20	15 4	14 14
	4	18 1	17 44	17 25	17 4	16 51	16 36	16 19	15 57	15 47	15 35	15 21	15 5	14 14
	5	18 1	17 44	17 25	17 4	16 51	16 37	16 20	15 58	15 47	15 36	15 22	15 6	14 14
	6	18 1	17 44	17 26	17 4	16 52	16 38	16 20	15 59	15 48	15 37	15 23	15 8	14 14
	7	18 1	17 44	17 26	17 5	16 52	16 38	16 21	16 0	15 49	15 38	15 24	15 9	14 14
	8	18 1	17 44	17 26	17 5	16 53	16 39	16 22	16 0	15 50	15 39	15 26	15 10	14 14
	9	18 2	17 45	17 27	17 6	16 54	16 40	16 22	16 1	15 51	15 40	15 27	15 12	14 14
	10	18 2	17 45	17 27	17 6	16 54	16 40	16 23	16 2	15 52	15 41	15 28	15 13	14 14
	11	18 2	17 45	17 28	17 7	16 55	16 41	16 24	16 3	15 53	15 42	15 30	15 14	14 15
	12	18 2	17 46	17 28	17 8	16 55	16 42	16 25	16 4	15 55	15 44	15 31	15 16	14 15
	13	18 2	17 46	17 28	17 8	16 56	16 42	16 26	16 6	15 56	15 45	15 32	15 18	15
	14	18 2	17 46	17 29	17 8	16 57	16 43	16 27	16 6	15 57	15 46	15 34	15 19	15
	15	18 2	17 46	17 29	17 9	16 57	16 44	16 28	16 8	15 58	15 47	15 35	15 21	15
	16	18 2	17 46	17 29	17 10	16 58	16 44	16 28	16 9	15 59	15 49	15 37	15 23	15
	17	18 2	17 47	17 30	17 10	16 59	16 45	16 29	16 10	16 0	15 50	15 38	15 24	15
	18	18 2	17 47	17 30	17 11	16 59	16 46	16 30	16 11	16 2	15 52	15 40	15 26	15 16
	19	18 3	17 47	17 30	17 11	17 0	16 47	16 31	16 12	16 3	15 53	15 41	15 28	15 16
	20	18 3	17 47	17 31	17 12	17 1	16 48	16 32	16 14	16 4	15 54	15 43	15 30	15 16
	21	18 3	17 48	17 31	17 12	17 1	16 49	16 33	16 15	16 6	15 56	15 45	15 32	15 16
	22	18 3	17 48	17 32	17 13	17 2	16 49	16 34	16 16	16 7	15 58	15 46	15 34	15 18
	23	18 3	17 48	17 32	17 14	17 3	16 50	16 36	16 17	16 9	15 59	15 48	15 36	15 21
	24	18 3	17 48	17 32	17 14	17 4	16 51	16 37	16 19	16 10	16 1	15 50	15 38	15 23
	25	18 3	17 48	17 33	17 15	17 4	16 52	16 38	16 20	16 12	16 2	15 52	15 39	15 25
	26	18 3	17 48	17 33	17 15	17 5	16 53	16 39	16 21	16 13	16 4	15 53	15 41	15 27
	27	18 3	17 49	17 34	17 16	17 6	16 54	16 40	16 22	16 14	16 5	15 55	15 43	15 30
	28	18 3	17 49	17 34	17 17	17 6	16 55	16 41	16 24	16 16	16 7	15 57	15 45	15 32
	29	18 3	17 49	17 34	17 17	17 7	16 56	16 42	16 25	16 17	16 9	15 58	15 47	15 34
	30	18 3	17 49	17 35	17 18	17 8	16 56	16 43	16 27	16 19	16 10	16 0	15 50	15 37
Aug.	31	18 3	17 49	17 35	17 18	17 9	16 57	16 44	16 28	16 20	16 12	16 2	15 52	15 39
	1	18 3	17 50	17 35	17 19	17 9	16 58	16 46	16 30	16 22	16 14	16 4	15 54	15 41
	2	18 3	17 50	17 36	17 20	17 10	16 59	16 47	16 31	16 24	16 15	16 6	15 56	15 44
	3	18 2	17 50	17 36	17 20	17 11	17 0	16 48	16 32	16 25	16 17	16 8	15 58	15 46
	4	18 2	17 50	17 36	17 21	17 12	17 1	16 49	16 34	16 27	16 19	16 10	16 0	15 48
	5	18 2	17 50	17 37	17 21	17 12	17 2	16 50	16 35	16 28	16 20	16 12	16 2	15 51
	6	18 2	17 50	17 37	17 22	17 13	17 3	16 51	16 37	16 30	16 22	16 14	16 4	15 53
	7	18 2	17 50	17 37	17 23	17 14	17 4	16 52	16 38	16 31	16 24	16 16	16 6	15 56
	8	18 2	17 50	17 38	17 23	17 15	17 5	16 54	16 40	16 33	16 26	16 18	16 9	15 58
	9	18 2	17 50	17 38	17 24	17 16	17 6	16 55	16 41	16 35	16 28	16 20	16 11	16 0
	10	18 2	17 50	17 38	17 24	17 16	17 7	16 56	16 42	16 36	16 29	16 22	16 13	16 3
	11	18 2	17 51	17 39	17 25	17 17	17 8	16 57	16 44	16 38	16 31	16 24	16 15	16 5
	12	18 2	17 51	17 39	17 26	17 18	17 9	16 58	16 45	16 40	16 33	16 26	16 17	16 8
	13	18 1	17 51	17 39	17 26	17 18	17 10	17 0	16 47	16 41	16 35	16 27	16 19	16 10
	14	18 1	17 51	17 40	17 27	17 19	17 11	17 1	16 48	16 43	16 36	16 29	16 21	16 12
	15	18 1	17 51	17 40	17 27	17 20	17 12	17 2	16 50	16 44	16 38	16 31	16 24	16 15
	16	18 1	17 51	17 40	17 28	17 21	17 12	17 3	16 51	16 46	16 40	16 33	16 26	16 17

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1917.

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For sunset in southern latitudes see page 24.

Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
July	2	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
	3	6 8	6 25	6 43	7 5	7 18	7 33	7 50	8 12	8 23	8 35	8 49	9 5	9 25
	4	6 8	6 25	6 43	7 5	7 18	7 32	7 50	8 12	8 22	8 34	8 48	9 4	9 24
	5	6 8	6 25	6 43	7 5	7 18	7 32	7 49	8 11	8 22	8 33	8 47	9 3	9 22
	6	6 8	6 25	6 43	7 5	7 17	7 32	7 49	8 11	8 21	8 33	8 46	9 2	9 21
	7	6 8	6 25	6 43	7 5	7 17	7 32	7 49	8 10	8 20	8 32	8 46	9 1	9 20
	8	6 8	6 25	6 43	7 4	7 17	7 31	7 48	8 10	8 20	8 31	8 45	9 0	9 19
	9	6 8	6 25	6 43	7 4	7 16	7 31	7 48	8 9	8 19	8 30	8 44	8 59	9 18
	10	6 9	6 25	6 43	7 4	7 16	7 30	7 47	8 8	8 18	8 30	8 43	8 58	9 16
	11	6 9	6 25	6 43	7 4	7 16	7 30	7 47	8 8	8 18	8 29	8 42	8 57	9 15
	12	6 9	6 25	6 43	7 4	7 16	7 30	7 46	8 7	8 17	8 28	8 41	8 56	9 13
	13	6 9	6 25	6 43	7 3	7 15	7 29	7 46	8 6	8 16	8 27	8 39	8 54	9 12
	14	6 9	6 25	6 43	7 3	7 15	7 29	7 45	8 5	8 15	8 26	8 38	8 53	9 10
	15	6 9	6 25	6 43	7 3	7 15	7 28	7 44	8 4	8 14	8 25	8 37	8 51	9 8
	16	6 9	6 25	6 42	7 2	7 14	7 28	7 44	8 3	8 13	8 24	8 36	8 50	9 7
	17	6 9	6 25	6 42	7 2	7 14	7 27	7 43	8 2	8 12	8 22	8 34	8 48	9 5
	18	6 10	6 25	6 42	7 2	7 13	7 26	7 42	8 1	8 11	8 21	8 33	8 47	9 3
	19	6 10	6 25	6 42	7 1	7 12	7 26	7 41	8 0	8 10	8 20	8 32	8 45	9 1
	20	6 10	6 25	6 42	7 1	7 12	7 25	7 40	7 59	8 8	8 18	8 30	8 43	8 59
	21	6 10	6 25	6 41	7 0	7 11	7 24	7 39	7 58	8 7	8 17	8 28	8 42	8 57
	22	6 10	6 25	6 41	7 0	7 11	7 23	7 38	7 57	8 6	8 16	8 27	8 40	8 55
	23	6 10	6 25	6 41	6 59	7 10	7 23	7 38	7 56	8 5	8 14	8 25	8 38	8 53
	24	6 10	6 24	6 40	6 59	7 10	7 22	7 36	7 55	8 3	8 13	8 24	8 36	8 51
	25	6 10	6 24	6 40	6 58	7 9	7 21	7 36	7 53	8 2	8 11	8 22	8 34	8 49
	26	6 10	6 24	6 40	6 58	7 8	7 20	7 34	7 52	8 0	8 10	8 20	8 32	8 46
	27	6 10	6 24	6 39	6 57	7 7	7 19	7 33	7 51	7 59	8 8	8 18	8 30	8 44
	28	6 10	6 24	6 39	6 56	7 7	7 18	7 32	7 49	7 57	8 6	8 17	8 28	8 42
	29	6 10	6 24	6 38	6 56	7 6	7 17	7 31	7 48	7 56	8 5	8 15	8 26	8 39
	30	6 10	6 23	6 38	6 55	7 5	7 16	7 30	7 46	7 54	8 3	8 13	8 24	8 37
	31	6 10	6 23	6 37	6 54	7 4	7 15	7 29	7 45	7 53	8 1	8 11	8 22	8 35
Aug.	1	6 10	6 23	6 37	6 54	7 3	7 14	7 27	7 44	7 51	7 59	8 9	8 20	8 32
	2	6 9	6 22	6 37	6 53	7 2	7 13	7 26	7 42	7 49	7 58	8 7	8 17	8 30
	3	6 9	6 22	6 36	6 52	7 2	7 12	7 25	7 40	7 48	7 56	8 5	8 15	8 27
	4	6 9	6 22	6 36	6 51	7 1	7 11	7 24	7 39	7 46	7 54	8 3	8 13	8 25
	5	6 9	6 22	6 35	6 50	7 0	7 10	7 22	7 37	7 44	7 52	8 1	8 11	8 22
	6	6 9	6 21	6 35	6 50	6 59	7 9	7 21	7 36	7 42	7 50	7 59	8 8	8 19
	7	6 9	6 21	6 34	6 49	6 58	7 8	7 19	7 34	7 40	7 48	7 56	8 6	8 17
	8	6 9	6 21	6 33	6 48	6 57	7 6	7 18	7 32	7 39	7 46	7 54	8 3	8 14
	9	6 9	6 20	6 33	6 47	6 56	7 5	7 16	7 30	7 37	7 44	7 52	8 1	8 11
	10	6 8	6 20	6 32	6 46	6 54	7 4	7 15	7 28	7 35	7 42	7 50	7 59	8 9
	11	6 8	6 20	6 32	6 45	6 54	7 3	7 14	7 27	7 33	7 40	7 48	7 56	8 6
	12	6 8	6 19	6 31	6 44	6 52	7 2	7 12	7 25	7 31	7 38	7 45	7 54	8 3
	13	6 8	6 19	6 30	6 44	6 51	7 0	7 10	7 23	7 29	7 36	7 43	7 51	8 0
	14	6 8	6 18	6 30	6 43	6 50	6 59	7 9	7 21	7 27	7 34	7 41	7 48	7 58
	15	6 8	6 18	6 29	6 42	6 49	6 58	7 7	7 20	7 25	7 31	7 38	7 46	7 55
	16	6 8	6 18	6 28	6 41	6 48	6 56	7 6	7 18	7 23	7 29	7 36	7 44	7 52
	17	6 7	6 17	6 27	6 40	6 47	6 55	7 4	7 16	7 21	7 27	7 34	7 41	7 49

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 24.

Lat. Date.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
Aug. 16	h m 18 1	h m 17 51	h m 17 40	h m 17 28	h m 17 21	h m 17 12	h m 17 3	h m 16 51	h m 16 46	h m 16 40	h m 16 33	h m 16 26	h m 16 17
17	18 0	17 51	17 41	17 28	17 22	17 14	17 4	16 53	16 48	16 42	16 35	16 28	16 20
18	18 0	17 51	17 41	17 29	17 22	17 14	17 6	16 54	16 49	16 44	16 37	16 30	16 22
19	18 0	17 51	17 41	17 30	17 23	17 15	17 7	16 56	16 51	16 45	16 39	16 32	16 25
20	18 0	17 51	17 41	17 30	17 24	17 16	17 8	16 57	16 52	16 47	16 41	16 34	16 27
21	18 0	17 51	17 42	17 31	17 24	17 17	17 9	16 59	16 54	16 49	16 43	16 37	16 29
22	17 59	17 51	17 42	17 31	17 25	17 18	17 10	17 0	16 56	16 51	16 45	16 39	16 32
23	17 59	17 51	17 42	17 32	17 26	17 19	17 11	17 2	16 57	16 52	16 47	16 41	16 34
24	17 59	17 51	17 42	17 33	17 27	17 20	17 13	17 3	16 59	16 54	16 49	16 43	16 36
25	17 58	17 51	17 43	17 33	17 28	17 21	17 14	17 5	17 1	16 56	16 51	16 45	16 39
26	17 58	17 51	17 43	17 34	17 28	17 22	17 15	17 6	17 2	16 58	16 53	16 47	16 41
27	17 58	17 51	17 43	17 34	17 29	17 23	17 16	17 8	17 4	17 0	16 55	16 50	16 44
28	17 58	17 51	17 43	17 35	17 30	17 24	17 17	17 9	17 6	17 1	16 57	16 52	16 46
29	17 57	17 51	17 44	17 35	17 30	17 25	17 18	17 11	17 7	17 3	16 59	16 54	16 48
30	17 57	17 51	17 44	17 36	17 31	17 26	17 20	17 12	17 9	17 5	17 1	16 56	16 51
Sept. 31	17 57	17 51	17 44	17 36	17 32	17 27	17 21	17 14	17 10	17 7	17 3	16 58	16 53
1	17 56	17 51	17 44	17 37	17 33	17 28	17 22	17 15	17 12	17 8	17 5	17 0	16 56
2	17 56	17 51	17 45	17 38	17 33	17 29	17 23	17 17	17 14	17 10	17 7	17 2	16 58
3	17 56	17 50	17 45	17 38	17 34	17 30	17 24	17 18	17 15	17 12	17 9	17 5	17 0
4	17 56	17 50	17 45	17 39	17 35	17 31	17 26	17 20	17 17	17 14	17 10	17 7	17 3
5	17 55	17 50	17 45	17 39	17 36	17 32	17 27	17 21	17 19	17 16	17 12	17 9	17 5
6	17 55	17 50	17 46	17 40	17 36	17 32	17 28	17 23	17 20	17 18	17 14	17 11	17 7
7	17 54	17 50	17 46	17 40	17 37	17 34	17 29	17 24	17 22	17 19	17 16	17 13	17 10
8	17 54	17 50	17 46	17 41	17 38	17 34	17 30	17 26	17 24	17 21	17 18	17 15	17 12
9	17 54	17 50	17 46	17 41	17 39	17 35	17 32	17 27	17 25	17 23	17 20	17 18	17 14
10	17 54	17 50	17 46	17 42	17 39	17 36	17 33	17 29	17 27	17 25	17 22	17 20	17 17
11	17 53	17 50	17 47	17 42	17 40	17 37	17 34	17 30	17 28	17 26	17 24	17 22	17 19
12	17 53	17 50	17 47	17 43	17 41	17 38	17 35	17 32	17 30	17 28	17 26	17 24	17 22
13	17 53	17 50	17 47	17 44	17 42	17 39	17 36	17 33	17 32	17 30	17 28	17 26	17 24
14	17 52	17 50	17 47	17 44	17 42	17 40	17 38	17 35	17 33	17 32	17 30	17 28	17 26
15	17 52	17 50	17 47	17 45	17 43	17 41	17 39	17 36	17 35	17 34	17 32	17 30	17 28
16	17 51	17 50	17 48	17 45	17 44	17 42	17 40	17 38	17 37	17 35	17 34	17 32	17 31
17	17 51	17 50	17 48	17 46	17 44	17 43	17 41	17 39	17 38	17 37	17 36	17 35	17 33
18	17 51	17 49	17 48	17 46	17 45	17 44	17 42	17 41	17 40	17 39	17 38	17 37	17 36
19	17 50	17 49	17 48	17 47	17 46	17 45	17 44	17 42	17 42	17 41	17 40	17 39	17 38
20	17 50	17 49	17 48	17 47	17 47	17 46	17 45	17 44	17 43	17 42	17 42	17 41	17 40
21	17 50	17 49	17 49	17 48	17 47	17 47	17 46	17 45	17 45	17 44	17 44	17 43	17 43
22	17 49	17 49	17 49	17 49	17 48	17 48	17 48	17 47	17 47	17 46	17 46	17 46	17 45
23	17 49	17 49	17 49	17 49	17 49	17 49	17 49	17 48	17 48	17 48	17 48	17 48	17 47
24	17 48	17 49	17 49	17 50	17 50	17 50	17 50	17 50	17 50	17 50	17 50	17 50	17 50
25	17 48	17 49	17 50	17 50	17 50	17 51	17 51	17 51	17 51	17 52	17 52	17 52	17 52
26	17 48	17 49	17 50	17 51	17 51	17 52	17 52	17 53	17 53	17 53	17 54	17 54	17 54
27	17 48	17 49	17 50	17 51	17 52	17 53	17 53	17 54	17 55	17 55	17 56	17 56	17 57
28	17 47	17 49	17 50	17 52	17 53	17 54	17 55	17 56	17 56	17 57	17 58	17 58	17 59
29	17 47	17 49	17 50	17 52	17 53	17 55	17 56	17 57	17 58	17 59	18 0	18 0	18 2
30	17 47	17 49	17 51	17 53	17 54	17 56	17 57	17 59	18 0	18 1	18 2	18 2	18 4
Oct. 1	17 46	17 49	17 51	17 53	17 55	17 56	17 58	18 0	18 1	18 2	18 4	18 5	18 6

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunset in southern latitudes see page 24.

Lat. Date.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
Aug. 17	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
18	6 7	6 17	6 27	6 40	6 47	6 55	7 4	7 16	7 21	7 27	7 34	7 41	7 49
19	6 7	6 16	6 27	6 39	6 46	6 53	7 3	7 14	7 19	7 25	7 31	7 38	7 46
20	6 7	6 16	6 26	6 38	6 44	6 52	7 1	7 12	7 17	7 23	7 29	7 36	7 44
21	6 6	6 15	6 25	6 36	6 42	6 49	6 58	7 10	7 15	7 20	7 26	7 33	7 41
	6 6	6 15	6 25	6 36	6 42	6 49	6 58	7 8	7 13	7 18	7 24	7 31	7 38
22	6 6	6 15	6 24	6 34	6 41	6 48	6 56	7 6	7 11	7 16	7 22	7 28	7 35
23	6 6	6 14	6 23	6 33	6 39	6 46	6 54	7 4	7 8	7 14	7 19	7 25	7 32
24	6 6	6 14	6 23	6 32	6 38	6 45	6 52	7 2	7 6	7 11	7 16	7 22	7 29
25	6 5	6 13	6 22	6 31	6 37	6 43	6 51	7 0	7 4	7 9	7 14	7 20	7 26
26	6 5	6 13	6 21	6 30	6 36	6 42	6 49	6 58	7 2	7 6	7 12	7 17	7 23
27	6 5	6 12	6 20	6 29	6 34	6 40	6 47	6 56	7 0	7 4	7 9	7 14	7 20
28	6 4	6 12	6 19	6 28	6 33	6 39	6 46	6 54	6 58	7 2	7 6	7 12	7 18
29	6 4	6 11	6 18	6 27	6 32	6 37	6 44	6 52	6 55	6 59	7 4	7 9	7 14
30	6 4	6 10	6 17	6 25	6 30	6 36	6 42	6 50	6 53	6 57	7 1	7 6	7 12
31	6 4	6 10	6 16	6 24	6 29	6 34	6 40	6 48	6 51	6 55	6 59	7 3	7 8
Sept. 1	6 3	6 9	6 16	6 23	6 28	6 33	6 38	6 45	6 49	6 52	6 56	7 1	7 6
2	6 3	6 9	6 15	6 22	6 26	6 31	6 36	6 43	6 46	6 50	6 54	6 58	7 2
3	6 3	6 8	6 14	6 21	6 25	6 29	6 35	6 41	6 44	6 47	6 51	6 55	7 0
4	6 2	6 8	6 13	6 20	6 24	6 28	6 33	6 39	6 42	6 45	6 48	6 52	6 56
5	6 2	6 7	6 12	6 18	6 22	6 26	6 31	6 37	6 40	6 43	6 46	6 50	6 54
6	6 2	6 6	6 11	6 17	6 21	6 24	6 29	6 35	6 37	6 40	6 43	6 47	6 50
7	6 1	6 6	6 10	6 16	6 19	6 23	6 27	6 32	6 35	6 38	6 41	6 44	6 48
8	6 1	6 5	6 10	6 15	6 18	6 21	6 25	6 30	6 33	6 35	6 38	6 41	6 44
9	6 0	6 4	6 9	6 14	6 16	6 20	6 24	6 28	6 30	6 33	6 35	6 38	6 41
10	6 0	6 4	6 8	6 12	6 15	6 18	6 22	6 26	6 28	6 30	6 33	6 35	6 38
11	6 0	6 3	6 7	6 11	6 14	6 16	6 20	6 24	6 26	6 28	6 30	6 33	6 35
12	6 0	6 3	6 6	6 10	6 12	6 15	6 18	6 22	6 23	6 25	6 27	6 30	6 32
13	5 59	6 2	6 5	6 9	6 11	6 13	6 16	6 20	6 21	6 23	6 25	6 27	6 29
14	5 59	6 1	6 4	6 7	6 9	6 12	6 14	6 17	6 19	6 20	6 22	6 24	6 26
15	5 58	6 1	6 3	6 6	6 8	6 10	6 12	6 15	6 16	6 18	6 19	6 21	6 23
16	5 58	6 0	6 2	6 5	6 6	6 8	6 10	6 13	6 14	6 15	6 17	6 18	6 20
17	5 58	6 0	6 1	6 4	6 5	6 7	6 8	6 11	6 12	6 13	6 14	6 16	6 17
18	5 58	5 59	6 0	6 2	6 4	6 5	6 6	6 8	6 9	6 10	6 11	6 13	6 14
19	5 57	5 58	6 0	6 1	6 2	6 3	6 5	6 6	6 7	6 8	6 9	6 10	6 11
20	5 57	5 58	5 59	6 0	6 1	6 2	6 3	6 3	6 5	6 5	6 6	6 7	6 8
21	5 56	5 57	5 58	5 59	5 59	6 0	6 1	6 2	6 2	6 3	6 3	6 4	6 5
22	5 56	5 56	5 57	5 57	5 58	5 59	6 0	6 0	6 0	6 0	6 1	6 1	6 2
23	5 56	5 56	5 56	5 56	5 56	5 57	5 57	5 57	5 58	5 58	5 58	5 58	5 59
24	5 55	5 55	5 55	5 55	5 55	5 55	5 55	5 55	5 55	5 55	5 55	5 56	5 56
25	5 55	5 54	5 54	5 54	5 53	5 53	5 53	5 53	5 53	5 53	5 53	5 53	5 53
26	5 55	5 54	5 53	5 52	5 52	5 52	5 51	5 51	5 51	5 50	5 50	5 50	5 50
27	5 54	5 53	5 52	5 51	5 50	5 50	5 49	5 48	5 48	5 48	5 47	5 47	5 46
28	5 54	5 53	5 51	5 50	5 49	5 48	5 47	5 46	5 46	5 45	5 45	5 44	5 44
29	5 54	5 52	5 50	5 49	5 48	5 47	5 46	5 44	5 44	5 43	5 42	5 41	5 40
30	5 53	5 51	5 50	5 47	5 46	5 45	5 44	5 42	5 41	5 40	5 40	5 38	5 37
Oct. 1	5 53	5 51	5 49	5 46	5 45	5 44	5 42	5 40	5 39	5 38	5 37	5 36	5 34
2	5 53	5 50	5 48	5 45	5 44	5 42	5 40	5 38	5 37	5 36	5 34	5 33	5 31

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 24.

Lat. Data.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
Oct. 1	h m 17 46	h m 17 49	h m 17 51	h m 17 53	h m 17 55	h m 17 56	h m 17 58	h m 18 0	h m 18 1	h m 18 2	h m 18 4	h m 18 5	h m 18 6
2	17 46	17 49	17 51	17 54	17 56	17 58	18 0	18 2	18 3	18 4	18 6	18 7	18 9
3	17 46	17 48	17 52	17 55	17 56	17 58	18 1	18 4	18 5	18 6	18 8	18 9	18 11
4	17 45	17 48	17 52	17 55	17 57	18 0	18 2	18 5	18 6	18 8	18 10	18 11	18 13
5	17 45	17 48	17 52	17 56	17 58	18 0	18 3	18 7	18 8	18 10	18 12	18 14	18 16
6	17 45	17 48	17 52	17 56	17 59	18 2	18 5	18 8	18 10	18 12	18 14	18 16	18 18
7	17 44	17 48	17 52	17 57	18 0	18 2	18 6	18 10	18 12	18 14	18 16	18 18	18 20
8	17 44	17 48	17 53	17 58	18 0	18 4	18 7	18 11	18 13	18 15	18 18	18 20	18 23
9	17 44	17 48	17 53	17 58	18 1	18 5	18 8	18 13	18 15	18 17	18 20	18 22	18 25
10	17 44	17 48	17 53	17 59	18 2	18 6	18 10	18 14	18 17	18 19	18 22	18 25	18 28
11	17 43	17 48	17 54	18 0	18 3	18 7	18 11	18 16	18 18	18 21	18 24	18 27	18 30
12	17 43	17 48	17 54	18 0	18 4	18 8	18 12	18 18	18 20	18 23	18 26	18 29	18 33
13	17 43	17 48	17 54	18 1	18 4	18 9	18 14	18 19	18 22	18 25	18 28	18 31	18 35
14	17 43	17 48	17 55	18 1	18 5	18 10	18 15	18 21	18 24	18 27	18 30	18 34	18 38
15	17 42	17 48	17 55	18 2	18 6	18 11	18 16	18 22	18 26	18 28	18 32	18 36	18 40
16	17 42	17 49	17 55	18 3	18 7	18 12	18 18	18 24	18 27	18 30	18 34	18 38	18 43
17	17 42	17 49	17 56	18 4	18 8	18 13	18 19	18 26	18 29	18 32	18 36	18 40	18 45
18	17 42	17 49	17 56	18 4	18 9	18 14	18 20	18 27	18 31	18 34	18 38	18 43	18 48
19	17 42	17 49	17 56	18 5	18 10	18 15	18 21	18 29	18 32	18 36	18 40	18 45	18 50
20	17 42	17 49	17 57	18 6	18 10	18 16	18 23	18 30	18 34	18 38	18 42	18 47	18 53
21	17 41	17 49	17 57	18 6	18 11	18 17	18 24	18 32	18 36	18 40	18 44	18 50	18 55
22	17 41	17 49	17 58	18 7	18 12	18 18	18 26	18 34	18 38	18 42	18 47	18 52	18 58
23	17 41	17 49	17 58	18 8	18 13	18 19	18 27	18 35	18 39	18 44	18 49	18 54	19 0
24	17 41	17 50	17 58	18 8	18 14	18 21	18 28	18 37	18 41	18 46	18 51	18 56	19 3
25	17 41	17 50	17 59	18 9	18 15	18 22	18 29	18 39	18 43	18 48	18 53	18 59	19 5
26	17 41	17 50	17 59	18 10	18 16	18 23	18 31	18 40	18 45	18 50	18 55	19 1	19 8
27	17 41	17 50	18 0	18 11	18 17	18 24	18 32	18 42	18 47	18 52	18 57	19 3	19 10
28	17 40	17 50	18 0	18 11	18 18	18 25	18 34	18 44	18 48	18 54	18 59	19 6	19 13
29	17 40	17 50	18 0	18 12	18 19	18 26	18 35	18 45	18 50	18 56	19 1	19 8	19 16
30	17 40	17 50	18 1	18 13	18 20	18 27	18 36	18 47	18 52	18 58	19 4	19 10	19 18
Nov. 1	17 40	17 51	18 1	18 14	18 20	18 28	18 38	18 49	18 54	18 59	19 6	19 13	19 21
2	17 40	17 51	18 2	18 14	18 21	18 30	18 39	18 50	18 56	19 1	19 8	19 15	19 23
3	17 40	17 51	18 2	18 15	18 22	18 31	18 40	18 52	18 57	19 3	19 10	19 17	19 26
4	17 40	17 51	18 3	18 16	18 23	18 32	18 42	18 54	18 59	19 5	19 12	19 20	19 28
5	17 40	17 52	18 3	18 17	18 24	18 33	18 43	18 55	19 1	19 7	19 14	19 22	19 31
6	17 40	17 52	18 4	18 17	18 25	18 34	18 44	18 57	19 3	19 9	19 16	19 24	19 33
7	17 40	17 52	18 4	18 18	18 26	18 35	18 46	18 59	19 5	19 11	19 18	19 27	19 36
8	17 40	17 52	18 5	18 19	18 27	18 36	18 47	19 0	19 6	19 13	19 20	19 29	19 39
9	17 40	17 52	18 5	18 20	18 28	18 38	18 49	19 2	19 8	19 15	19 23	19 31	19 41
10	17 41	17 53	18 6	18 21	18 29	18 39	18 50	19 4	19 10	19 17	19 25	19 34	19 44
11	17 41	17 54	18 7	18 22	18 31	18 41	18 53	19 7	19 14	19 21	19 29	19 38	19 49
12	17 41	17 54	18 8	18 23	18 32	18 42	18 54	19 9	19 15	19 23	19 31	19 41	19 51
13	17 41	17 54	18 8	18 24	18 33	18 43	18 56	19 10	19 17	19 25	19 33	19 43	19 54
14	17 41	17 54	18 9	18 25	18 34	18 44	18 57	19 12	19 19	19 26	19 35	19 45	19 56
15	17 41	17 55	18 9	18 26	18 35	18 46	18 58	19 14	19 21	19 28	19 37	19 47	19 59
16	17 42	17 55	18 10	18 26	18 36	18 47	19 0	19 15	19 22	19 30	19 39	19 50	20 1

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunset in southern latitudes see page 24.

Lat. Date.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
Oct. 2	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
3	5 53	5 50	5 48	5 45	5 44	5 42	5 40	5 38	5 37	5 36	5 34	5 33	5 31
4	5 52	5 50	5 47	5 44	5 42	5 40	5 38	5 35	5 34	5 33	5 32	5 30	5 28
5	5 52	5 49	5 46	5 43	5 41	5 39	5 36	5 33	5 32	5 31	5 29	5 27	5 26
6	5 52	5 48	5 45	5 41	5 39	5 37	5 34	5 31	5 30	5 28	5 26	5 24	5 22
7	5 52	5 48	5 44	5 40	5 38	5 35	5 32	5 29	5 28	5 26	5 24	5 22	5 20
8	5 51	5 47	5 43	5 39	5 36	5 34	5 31	5 27	5 25	5 23	5 21	5 19	5 16
9	5 51	5 47	5 43	5 38	5 35	5 32	5 29	5 25	5 23	5 21	5 19	5 16	5 14
10	5 51	5 46	5 42	5 37	5 34	5 31	5 27	5 23	5 21	5 18	5 16	5 14	5 10
11	5 50	5 46	5 41	5 36	5 33	5 29	5 25	5 20	5 18	5 16	5 14	5 11	5 8
12	5 50	5 45	5 40	5 34	5 31	5 28	5 23	5 18	5 16	5 14	5 11	5 8	5 5
13	5 50	5 45	5 39	5 33	5 30	5 26	5 22	5 16	5 14	5 11	5 8	5 5	5 2
14	5 50	5 44	5 38	5 32	5 29	5 24	5 20	5 15	5 12	5 9	5 6	5 2	4 59
15	5 49	5 44	5 38	5 31	5 27	5 23	5 18	5 12	5 10	5 7	5 3	5 0	4 56
16	5 49	5 43	5 37	5 30	5 26	5 22	5 16	5 10	5 7	5 4	5 1	4 57	4 53
17	5 49	5 43	5 36	5 29	5 25	5 20	5 15	5 8	5 5	5 2	4 58	4 54	4 50
18	5 49	5 42	5 35	5 28	5 23	5 18	5 13	5 6	5 3	5 0	4 56	4 52	4 47
19	5 49	5 42	5 35	5 27	5 22	5 17	5 11	5 4	5 1	4 57	4 53	4 49	4 44
20	5 48	5 41	5 34	5 26	5 21	5 16	5 9	5 2	4 59	4 55	4 51	4 46	4 41
21	5 48	5 41	5 33	5 25	5 20	5 14	5 8	5 0	4 57	4 53	4 48	4 44	4 38
22	5 48	5 40	5 33	5 24	5 19	5 13	5 6	4 58	4 54	4 50	4 46	4 41	4 36
23	5 48	5 40	5 32	5 23	5 17	5 11	5 4	4 56	4 52	4 48	4 44	4 38	4 32
24	5 48	5 40	5 31	5 22	5 16	5 10	5 3	4 54	4 50	4 46	4 41	4 36	4 30
25	5 48	5 39	5 31	5 21	5 15	5 9	5 1	4 52	4 48	4 44	4 39	4 33	4 27
26	5 48	5 39	5 30	5 20	5 14	5 7	5 0	4 50	4 46	4 42	4 37	4 31	4 24
27	5 47	5 39	5 29	5 19	5 13	5 6	4 58	4 49	4 44	4 40	4 34	4 28	4 22
28	5 47	5 38	5 29	5 18	5 12	5 5	4 57	4 47	4 42	4 37	4 32	4 26	4 19
29	5 47	5 38	5 28	5 17	5 11	5 3	4 55	4 45	4 40	4 35	4 30	4 23	4 16
30	5 47	5 38	5 28	5 16	5 10	5 2	4 54	4 43	4 38	4 33	4 27	4 21	4 14
31	5 47	5 37	5 27	5 15	5 8	5 1	4 52	4 41	4 37	4 31	4 25	4 18	4 11
Nov. 1	5 47	5 37	5 26	5 14	5 8	5 0	4 51	4 40	4 35	4 29	4 23	4 16	4 8
2	5 47	5 36	5 25	5 13	5 6	4 58	4 49	4 38	4 33	4 27	4 21	4 14	4 6
3	5 47	5 36	5 25	5 12	5 4	4 57	4 48	4 36	4 31	4 25	4 18	4 11	4 3
4	5 47	5 36	5 25	5 12	5 4	4 56	4 46	4 34	4 29	4 23	4 16	4 9	4 0
5	5 47	5 36	5 24	5 11	5 4	4 55	4 45	4 33	4 27	4 21	4 14	4 7	3 58
6	5 47	5 36	5 24	5 10	5 3	4 54	4 44	4 31	4 26	4 19	4 12	4 4	3 55
7	5 47	5 36	5 24	5 10	5 2	4 53	4 42	4 30	4 24	4 17	4 10	4 2	3 53
8	5 47	5 36	5 23	5 9	5 1	4 52	4 41	4 28	4 22	4 16	4 8	4 0	3 50
9	5 47	5 35	5 23	5 8	5 0	4 51	4 40	4 27	4 20	4 14	4 6	3 58	3 48
10	5 47	5 35	5 22	5 8	4 59	4 50	4 39	4 25	4 19	4 12	4 4	3 55	3 46
11	5 48	5 35	5 22	5 7	4 58	4 49	4 37	4 24	4 17	4 10	4 2	3 53	3 43
12	5 48	5 35	5 22	5 6	4 58	4 48	4 36	4 22	4 16	4 8	4 0	3 51	3 41
13	5 48	5 35	5 21	5 6	4 57	4 47	4 35	4 21	4 14	4 7	3 58	3 49	3 38
14	5 48	5 35	5 21	5 5	4 56	4 46	4 34	4 19	4 13	4 5	3 57	3 47	3 36
15	5 48	5 35	5 21	5 5	4 56	4 45	4 33	4 18	4 11	4 4	3 55	3 45	3 34
16	5 48	5 35	5 20	5 4	4 55	4 44	4 32	4 17	4 10	4 2	3 53	3 43	3 32
17	5 48	5 35	5 20	5 4	4 54	4 44	4 31	4 16	4 8	4 0	3 52	3 41	3 30
18	5 48	5 35	5 20	5 3	4 54	4 43	4 30	4 14	4 7	3 59	3 50	3 39	3 27

LOCAL ASTRONOMICAL MEAN TIME OF SUNRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, subtract 12 hours, mark the result A. M., and add one to the day.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunrise in southern latitudes see page 24.

Lat. Date.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
Nov. 16	h m 17 42	h m 17 55	h m 18 10	h m 18 26	h m 18 36	h m 18 47	h m 19 0	h m 19 15	h m 19 22	h m 19 30	h m 19 39	h m 19 50	h m 20 1
17	17 42	17 56	18 10	18 27	18 37	18 48	19 1	19 17	19 24	19 32	19 42	19 52	20 4
18	17 42	17 56	18 11	18 28	18 38	18 49	19 2	19 18	19 26	19 34	19 44	19 54	20 6
19	17 42	17 57	18 12	18 29	18 39	18 50	19 4	19 20	19 28	19 36	19 46	19 56	20 9
20	17 42	17 57	18 12	18 30	18 40	18 51	19 5	19 22	19 29	19 38	19 48	19 58	20 11
21	17 42	17 57	18 13	18 31	18 41	18 52	19 6	19 23	19 31	19 40	19 49	20 1	20 14
22	17 43	17 58	18 14	18 31	18 42	18 54	19 8	19 24	19 33	19 41	19 51	20 3	20 16
23	17 43	17 58	18 14	18 32	18 43	18 55	19 9	19 26	19 34	19 43	19 53	20 5	20 18
24	17 43	17 59	18 15	18 33	18 44	18 56	19 10	19 28	19 36	19 45	19 55	20 7	20 21
25	17 44	17 59	18 15	18 34	18 45	18 57	19 11	19 29	19 37	19 47	19 57	20 9	20 23
26	17 44	18 0	18 16	18 35	18 46	18 58	19 13	19 30	19 39	19 48	19 59	20 11	20 25
27	17 44	18 0	18 17	18 36	18 47	18 59	19 14	19 32	19 40	19 50	20 1	20 13	20 28
28	17 44	18 1	18 17	18 36	18 48	19 0	19 15	19 33	19 42	19 52	20 2	20 15	20 30
29	17 45	18 1	18 18	18 37	18 48	19 1	19 16	19 35	19 43	19 53	20 4	20 17	20 32
30	17 45	18 2	18 19	18 38	18 49	19 2	19 17	19 36	19 45	19 55	20 6	20 19	20 34
Dec. 1	17 46	18 2	18 19	18 39	18 50	19 3	19 19	19 37	19 46	19 56	20 8	20 21	20 36
2	17 46	18 2	18 20	18 40	18 51	19 4	19 20	19 39	19 48	19 58	20 9	20 22	20 38
3	17 47	18 3	18 20	18 40	18 52	19 5	19 21	19 40	19 49	19 59	20 11	20 24	20 40
4	17 47	18 4	18 21	18 41	18 53	19 6	19 22	19 41	19 50	20 1	20 12	20 26	20 42
5	17 47	18 4	18 22	18 42	18 54	19 7	19 23	19 42	19 52	20 2	20 14	20 27	20 44
6	17 48	18 4	18 22	18 43	18 54	19 8	19 24	19 44	19 53	20 3	20 15	20 29	20 45
7	17 48	18 5	18 23	18 43	18 55	19 9	19 25	19 45	19 54	20 5	20 17	20 30	20 47
8	17 49	18 6	18 24	18 44	18 56	19 10	19 26	19 46	19 55	20 6	20 18	20 32	20 49
9	17 49	18 6	18 24	18 45	18 57	19 10	19 27	19 47	19 56	20 7	20 19	20 33	20 50
10	17 50	18 7	18 25	18 46	18 58	19 11	19 28	19 48	19 58	20 8	20 20	20 35	20 52
11	17 50	18 7	18 25	18 46	18 58	19 12	19 29	19 49	19 59	20 9	20 22	20 36	20 53
12	17 50	18 8	18 26	18 47	18 59	19 13	19 30	19 50	20 0	20 10	20 23	20 37	20 54
13	17 51	18 8	18 26	18 48	19 0	19 14	19 30	19 51	20 0	20 11	20 24	20 38	20 56
14	17 51	18 9	18 27	18 48	19 0	19 14	19 31	19 52	20 1	20 12	20 25	20 40	20 57
15	17 52	18 9	18 28	18 49	19 1	19 15	19 32	19 52	20 2	20 13	20 26	20 40	20 58
16	17 52	18 10	18 28	18 50	19 2	19 16	19 33	19 53	20 3	20 14	20 27	20 42	20 59
17	17 53	18 10	18 29	18 50	19 2	19 16	19 33	19 54	20 4	20 15	20 28	20 43	21 0
18	17 53	18 11	18 29	18 51	19 3	19 17	19 34	19 55	20 5	20 16	20 29	20 44	21 1
19	17 54	18 11	18 30	18 51	19 3	19 18	19 34	19 55	20 5	20 16	20 29	20 44	21 1
20	17 54	18 12	18 30	18 52	19 4	19 18	19 35	19 56	20 6	20 17	20 30	20 44	21 2
21	17 55	18 12	18 31	18 52	19 4	19 19	19 36	19 56	20 6	20 18	20 30	20 45	21 3
22	17 55	18 13	18 31	18 53	19 5	19 19	19 36	19 57	20 7	20 18	20 31	20 46	21 3
23	17 56	18 13	18 32	18 53	19 5	19 20	19 36	19 57	20 7	20 18	20 31	20 46	21 3
24	17 56	18 14	18 32	18 54	19 6	19 20	19 37	19 58	20 8	20 19	20 31	20 46	21 4
25	17 57	18 14	18 33	18 54	19 6	19 20	19 37	19 58	20 8	20 19	20 32	20 46	21 4
26	17 57	18 15	18 33	18 54	19 7	19 21	19 38	19 58	20 8	20 19	20 32	20 47	21 4
27	17 58	18 15	18 34	18 55	19 7	19 21	19 38	19 59	20 8	20 19	20 32	20 47	21 4
28	17 58	18 16	18 34	18 55	19 7	19 21	19 38	19 59	20 8	20 19	20 32	20 47	21 4
29	17 59	18 16	18 34	18 55	19 7	19 22	19 38	19 59	20 8	20 19	20 32	20 46	21 4
30	17 59	18 16	18 35	18 56	19 8	19 22	19 38	19 59	20 8	20 19	20 32	20 46	21 4
31	18 0	18 17	18 35	18 56	19 8	19 22	19 38	19 59	20 8	20 19	20 32	20 46	21 3

LOCAL ASTRONOMICAL MEAN TIME OF SUNSET, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time.

To obtain the standard time at any station, increase the local time by the number of minutes the station is west of the standard meridian, or decrease the local time by the number of minutes the station is east of the standard meridian.

For sunset in southern latitudes see page 24.

Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Nov.	17	5 48	5 35	5 20	5 3	4 54	4 43	4 30	4 14	4 7	3 59	3 50	3 39	3 27
	18	5 49	5 35	5 20	5 3	4 53	4 42	4 29	4 13	4 6	3 57	3 48	3 38	3 25
	19	5 49	5 35	5 20	5 2	4 53	4 41	4 28	4 12	4 4	3 56	3 47	3 36	3 23
	20	5 49	5 35	5 20	5 2	4 52	4 41	4 27	4 11	4 3	3 55	3 45	3 34	3 21
	21	5 50	5 35	5 19	5 2	4 52	4 40	4 26	4 10	4 2	3 53	3 44	3 32	3 20
	22	5 50	5 35	5 19	5 2	4 51	4 39	4 26	4 9	4 1	3 52	3 42	3 31	3 18
	23	5 50	5 35	5 19	5 1	4 51	4 39	4 25	4 8	4 0	3 51	3 41	3 29	3 16
	24	5 50	5 35	5 19	5 1	4 50	4 38	4 24	4 7	3 59	3 50	3 39	3 28	3 14
	25	5 51	5 35	5 19	5 1	4 50	4 38	4 23	4 6	3 58	3 48	3 38	3 26	3 12
	26	5 51	5 36	5 19	5 1	4 50	4 37	4 23	4 5	3 57	3 47	3 37	3 25	3 11
	27	5 51	5 36	5 19	5 0	4 49	4 37	4 22	4 4	3 56	3 46	3 36	3 23	3 9
	28	5 52	5 36	5 19	5 0	4 49	4 37	4 22	4 4	3 55	3 45	3 34	3 22	3 8
	29	5 52	5 36	5 19	5 0	4 49	4 36	4 21	4 3	3 54	3 44	3 34	3 21	3 6
	30	5 52	5 36	5 19	5 0	4 49	4 36	4 21	4 2	3 53	3 44	3 32	3 20	3 5
Dec.	1	5 53	5 36	5 19	5 0	4 48	4 36	4 20	4 2	3 53	3 43	3 32	3 18	3 3
	2	5 53	5 37	5 20	5 0	4 48	4 35	4 20	4 1	3 52	3 42	3 31	3 18	3 2
	3	5 53	5 37	5 20	5 0	4 48	4 35	4 20	4 0	3 51	3 41	3 30	3 16	3 1
	4	5 54	5 37	5 20	5 0	4 48	4 35	4 19	4 0	3 51	3 41	3 29	3 16	3 0
	5	5 54	5 38	5 20	5 0	4 48	4 35	4 19	4 0	3 51	3 40	3 28	3 15	2 59
	6	5 55	5 38	5 20	5 0	4 48	4 35	4 19	3 59	3 50	3 40	3 28	3 14	2 58
	7	5 55	5 38	5 20	5 0	4 48	4 35	4 19	3 59	3 50	3 39	3 27	3 13	2 57
	8	5 56	5 39	5 21	5 0	4 48	4 35	4 18	3 59	3 49	3 39	3 27	3 13	2 56
	9	5 56	5 39	5 21	5 0	4 48	4 35	4 18	3 58	3 49	3 38	3 26	3 12	2 56
	10	5 56	5 39	5 21	5 1	4 49	4 35	4 18	3 58	3 49	3 38	3 26	3 12	2 55
	11	5 57	5 40	5 22	5 1	4 49	4 35	4 18	3 58	3 48	3 38	3 26	3 11	2 54
	12	5 57	5 40	5 22	5 1	4 49	4 35	4 18	3 58	3 48	3 38	3 25	3 11	2 54
	13	5 58	5 41	5 22	5 1	4 49	4 35	4 19	3 58	3 48	3 38	3 25	3 11	2 54
	14	5 58	5 41	5 23	5 2	4 50	4 35	4 19	3 58	3 48	3 38	3 25	3 10	2 53
	15	5 59	5 41	5 23	5 2	4 50	4 36	4 19	3 58	3 48	3 38	3 25	3 10	2 53
	16	5 59	5 42	5 23	5 2	4 50	4 36	4 19	3 58	3 49	3 38	3 25	3 10	2 53
	17	6 0	5 42	5 24	5 3	4 50	4 36	4 20	3 59	3 49	3 38	3 25	3 10	2 53
	18	6 0	5 43	5 24	5 3	4 51	4 37	4 20	3 59	3 49	3 38	3 25	3 11	2 53
	19	6 1	5 43	5 25	5 4	4 51	4 37	4 20	3 59	3 49	3 38	3 26	3 11	2 53
	20	6 1	5 44	5 25	5 4	4 52	4 37	4 20	4 0	3 50	3 38	3 26	3 11	2 54
	21	6 2	5 44	5 26	5 4	4 52	4 38	4 21	4 0	3 50	3 39	3 26	3 12	2 54
	22	6 2	5 45	5 26	5 5	4 53	4 38	4 22	4 1	3 51	3 40	3 27	3 12	2 54
	23	6 3	5 45	5 27	5 5	4 53	4 39	4 22	4 1	3 51	3 40	3 27	3 13	2 55
	24	6 3	5 46	5 27	5 6	4 54	4 40	4 23	4 2	3 52	3 41	3 28	3 13	2 56
	25	6 4	5 46	5 28	5 6	4 54	4 40	4 23	4 3	3 52	3 42	3 29	3 14	2 56
	26	6 4	5 47	5 28	5 7	4 55	4 41	4 24	4 3	3 53	3 42	3 30	3 15	2 57
	27	6 5	5 47	5 29	5 8	4 55	4 41	4 24	4 4	3 54	3 43	3 30	3 16	2 58
	28	6 5	5 48	5 30	5 8	4 56	4 42	4 25	4 5	3 55	3 44	3 31	3 17	2 59
	29	6 6	5 48	5 30	5 9	4 57	4 43	4 26	4 6	3 56	3 45	3 32	3 18	3 0
	30	6 6	5 49	5 31	5 10	4 57	4 43	4 27	4 6	3 57	3 46	3 33	3 19	3 2
	31	6 7	5 50	5 31	5 10	4 58	4 44	4 28	4 7	3 58	3 47	3 34	3 20	3 3
	32	6 7	5 50	5 32	5 11	4 59	4 45	4 28	4 8	3 59	3 48	3 36	3 21	3 4

SUNRISE AND SUNSET FOR SOUTHERN LATITUDES, 1917.

In the case of a southern latitude the time of sunrise or sunset is taken from Table I, with the corresponding northern latitude, not for the given date but for a date about six months earlier or later, which is to be found in the following table. The time taken from Table I, whether of sunrise or sunset, must be corrected by the quantity given in Table II on the same line with the given date.

Example.—May 10, 1917, civil date, in latitude -38° , required the time of sunrise and sunset.

The astronomical date is May 9 for sunrise and May 10 for sunset; Table II gives November 11 and 12 as the corresponding dates, northern latitude, while the correction is $+12^m$ in each case.

		Sunrise.				Sunset.		
		d	h	m		d	h	m
Table I, Lat. $+38^{\circ}$	. . . . .	Nov.	11	18 37		Nov.	12	4 51
Table II . . . . .	. . . . .	May	9	+ 12		May	10	+ 12
<hr/>								
Local astronomical mean time	. . . . .	May	9	18 49		May	10	5 3
Civil time . . . . .	. . . . .	May	10	6 49 A. M.		May	10	5 3 P. M.

Given Date.	Corresponding Date, Northern Latitude.	Correc-tion.	Given Date.	Corresponding Date, Northern Latitude.	Correc-tion.	Given Date.	Corresponding Date, Northern Latitude.	Correc-tion.	Given Date.	Corresponding Date, Northern Latitude.	Correc-tion.
Jan. 0	July 2	m 0	Feb. 5	Aug. 9	+ 9	Mar. 13	Sept. 15	+14	Apr. 18	Oct. 21	m +15
1	3	0	6	10	9	14	16	15	19	22	15
2	4	0	7	11	9	15	17	15	20	23	14
3	5	0	8	12	9	16	18	15	21	24	14
4	6	+1	9	13	10	17	19	15	22	25	14
5	7	+1	10	14	+10	18	20	+15	23	26	+14
6	8	1	11	15	10	19	21	15	24	27	14
7	9	2	12	16	10	20	22	15	25	28	14
8	10	2	13	17	10	21	23	15	26	29	14
9	11	2	14	18	11	22	24	15	27	30	14
10	12	+2	15	19	+11	23	25	+15	28	31	+14
11	13	3	16	20	11	24	26	15	29	Nov. 1	14
12	14	3	17	21	11	25	27	15	30	2	14
13	15	3	18	23	12	26	28	15	May 1	3	13
14	16	3	19	24	12	27	29	15	2	4	13
15	18	+4	20	25	+12	28	Oct. 1	+15	3	5	+13
16	19	4	21	26	12	29	2	15	4	6	13
17	20	4	22	27	12	30	3	16	5	7	13
18	21	4	23	28	12	31	4	16	6	8	13
19	22	5	24	29	13	Apr. 1	5	16	7	9	13
20	23	+5	25	30	+13	2	6	+16	8	10	+12
21	24	5	26	31	13	3	7	15	9	11	12
22	25	5	27	Sept. 1	13	4	8	15	10	12	12
23	26	6	28	2	13	5	9	15	11	13	12
24	27	6	Mar. 1	3	13	6	10	15	12	14	12
25	28	+6	2	4	+13	7	10	+15	13	15	+11
26	29	6	3	5	13	8	11	15	14	16	11
27	30	7	4	6	14	9	12	15	15	16	11
28	31	7	5	7	14	10	13	15	16	17	11
29	Aug. 1	7	6	8	14	11	14	15	17	18	11
30	3	+7	7	9	+14	12	15	+15	18	19	+11
31	4	8	8	10	14	13	16	15	19	20	11
Feb. 1	5	8	9	11	14	14	17	15	20	21	10
2	6	8	10	12	14	15	18	15	21	22	10
3	7	8	11	13	14	16	19	15	22	23	10
4	8	+9	12	14	+14	17	20	+15	23	24	+10

SUNRISE AND SUNSET FOR SOUTHERN LATITUDES, 1917.

Given Date.	Corresponding Date, Northern Latitude.	Correc-tion.	Given Date.	Corresponding Date, Northern Latitude.	Correc-tion.	Given Date.	Corresponding Date, Northern Latitude.	Correc-tion.	Given Date.	Corresponding Date, Northern Latitude.	Correc-tion.
May 24	Nov. 25	m +10	July 19	Jan. 16	m - 4	Sept. 13	Mar. 11	m -14	Nov. 8	May 6	m -13
25	26	9	20	17	4	14	12	14	9	7	13
26	27	9	21	18	4	15	13	14	10	8	12
27	28	9	22	19	5	16	14	15	11	9	12
28	29	9	23	20	5	17	15	15	12	10	12
29	30	+ 8	24	21	- 5	18	16	-15	13	11	-12
30	Dec. 1	8	25	22	5	19	17	15	14	12	12
June 31	2	8	26	23	6	20	18	15	15	13	11
1	3	8	27	24	6	21	19	15	16	15	11
2	4	7	28	25	6	22	20	15	17	16	11
3	4	+ 7	29	26	- 6	23	21	-15	18	17	-11
4	5	7	30	27	7	24	22	15	19	18	11
5	6	7	31	28	7	25	23	15	20	19	11
6	7	7	Aug. 1	29	7	26	24	15	21	20	10
7	8	7	2	30	7	27	25	15	22	21	10
8	9	+ 6	3	30	- 7	28	26	-15	23	22	-10
9	10	6	4	31	8	29	27	15	24	23	10
10	11	6	5	Feb. 1	8	30	28	15	25	24	10
11	12	6	6	2	8	Oct. 1	28	15	26	25	9
12	13	5	7	3	8	2	29	15	27	26	9
13	14	+ 5	8	4	- 9	3	30	-16	28	27	- 9
14	15	5	9	5	9	4	31	16	29	28	9
15	16	4	10	6	9	5	Apr. 1	16	30	29	8
16	17	4	11	7	9	6	2	16	Dec. 1	30	8
17	18	4	12	8	9	7	3	15	2	31	8
18	19	+ 4	13	9	-10	8	4	-15	3	June 1	- 8
19	20	4	14	10	10	9	5	15	4	2	7
20	20	4	15	11	10	10	7	15	5	4	7
21	21	3	16	12	10	11	8	15	6	5	7
22	22	3	17	13	10	12	9	15	7	6	7
23	23	+ 3	18	14	-11	13	10	-15	8	7	- 7
24	24	2	19	15	11	14	11	15	9	8	6
25	25	2	20	16	11	15	12	15	10	9	6
26	26	2	21	17	11	16	13	15	11	10	6
27	27	2	22	18	11	17	14	15	12	11	6
28	28	+ 1	23	18	-12	18	15	-15	13	12	- 5
29	29	1	24	19	12	19	16	15	14	13	5
30	30	1	25	20	12	20	17	15	15	14	5
July 1	Dec. 31	+ 1	26	21	12	21	18	15	16	15	4
2	Jan. 0	0	27	22	12	22	19	15	17	16	4
3	1	0	28	23	-12	23	20	-14	18	17	- 4
4	2	0	29	24	13	24	21	14	19	18	4
5	3	0	30	25	13	25	22	14	20	19	4
6	4	- 1	31	26	13	26	23	14	21	21	3
7	5	1	Sept. 1	27	13	27	24	14	22	22	3
8	6	- 1	2	28	-13	28	25	-14	23	23	- 3
9	7	2	3	Mar. 1	13	29	26	14	24	24	2
10	8	2	4	2	13	30	27	14	25	25	2
11	9	2	5	3	13	31	28	14	26	26	2
12	10	2	6	4	14	Nov. 1	29	14	27	27	2
13	11	- 3	7	5	-14	2	30	-14	28	28	- 1
14	12	3	8	6	14	3	May 1	13	29	29	1
15	13	3	9	7	14	4	2	13	30	30	1
16	14	3	10	8	14	5	3	13	31	July 1	- 1
17	14	3	11	9	14	6	4	13	32	2	0
18	15	- 4	12	10	-14	7	5	-13			

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Jan.	0	.....	.....	.....	.....	23 55	23 47	23 38	23 26	23 21	23 15	23 9	23 2	22 54
	1	0 36	0 26	0 15	0 2	.....	.....	.....	23 48	23 41	23 33	23 24	23 14	23 2
	2	1 24	1 10	0 56	0 39	0 29	0 18	0 4	.....	.....	23 56	23 44	23 30	23 14
	3	2 14	1 57	1 39	1 18	1 6	0 52	0 36	0 16	0 6	.....	.....	23 54	23 34
	4	3 6	2 47	2 26	2 3	1 49	1 33	1 14	0 50	0 39	0 26	0 12	.....	.....
	5	3 57	3 37	3 16	2 51	2 36	2 19	1 59	1 34	1 21	1 7	0 50	0 31	0 7
	6	4 49	4 29	4 8	3 43	3 29	3 12	2 52	2 26	2 14	2 0	1 44	1 24	1 0
	7	5 39	5 21	5 1	4 38	4 24	4 9	3 50	3 27	3 16	3 3	2 48	2 31	2 10
	8	6 28	6 11	5 54	5 34	5 22	5 8	4 52	4 33	4 23	4 12	4 0	3 47	3 30
	9	7 13	7 0	6 46	6 29	6 20	6 9	5 56	5 40	5 33	5 25	5 15	5 5	4 52
	10	7 56	7 46	7 36	7 24	7 17	7 9	6 59	6 48	6 42	6 37	6 30	6 23	6 15
	11	8 38	8 32	8 25	8 17	8 13	8 8	8 2	7 55	7 52	7 46	7 44	7 40	7 35
	12	9 18	9 16	9 14	9 10	9 9	9 7	9 5	9 2	9 1	8 59	8 58	8 56	8 54
	13	9 59	10 1	10 2	10 4	10 5	10 6	10 7	10 9	10 10	10 10	10 11	10 12	10 14
	14	10 40	10 46	10 52	10 58	11 2	11 6	11 12	11 18	11 20	11 24	11 27	11 31	11 35
	15	11 24	11 33	11 43	11 55	12 1	12 9	12 18	12 28	12 33	12 39	12 45	12 52	13 0
	16	12 11	12 24	12 38	12 54	13 3	13 14	13 27	13 42	13 50	13 58	14 7	14 17	14 29
	17	13 2	13 19	13 36	13 57	14 8	14 22	14 39	14 59	15 8	15 19	15 32	15 46	16 3
	18	13 58	14 17	14 38	15 2	15 15	15 31	15 51	16 15	16 27	16 40	16 56	17 14	17 36
	19	14 59	15 19	15 41	16 6	16 21	16 38	16 59	17 26	17 38	17 53	18 10	18 30	18 56
	20	16 2	16 22	16 43	17 8	17 23	17 40	18 0	18 25	18 37	18 51	19 7	19 26	19 50
	21	17 6	17 24	17 43	18 5	18 18	18 32	18 50	19 11	19 21	19 33	19 46	20 0	20 18
	22	18 8	18 22	18 37	18 54	19 4	19 16	19 30	19 46	19 53	20 2	20 11	20 22	20 34
	23	19 6	19 16	19 26	19 38	19 45	19 53	20 2	20 12	20 18	20 23	20 29	20 36	20 44
	24	20 0	20 5	20 10	20 17	20 20	20 24	20 29	20 34	20 37	20 39	20 42	20 46	20 50
	25	20 52	20 52	20 52	20 52	20 53	20 53	20 53	20 54	20 54	20 54	20 54	20 54	20 54
	26	21 42	21 37	21 32	21 27	21 24	21 21	21 17	21 12	21 10	21 8	21 5	21 2	20 59
	27	22 31	22 22	22 12	22 2	21 56	21 49	21 41	21 32	21 27	21 22	21 17	21 11	21 4
	28	23 20	23 7	22 54	22 38	22 30	22 19	22 8	21 53	21 47	21 40	21 31	21 22	21 12
	29	.....	23 54	23 38	23 18	23 6	22 54	22 38	22 19	22 11	22 1	21 50	21 37	21 22
Feb.	30	0 11	.....	.....	.....	23 48	23 32	23 14	22 51	22 41	22 29	22 15	21 58	21 39
	31	1 2	0 44	0 24	0 1	.....	.....	23 57	23 32	23 20	23 6	22 50	22 31	22 8
	1	1 54	1 34	1 12	0 48	0 34	0 17	.....	.....	.....	23 55	23 38	23 18	22 54
	2	2 45	2 25	2 4	1 39	1 24	1 7	0 47	0 21	0 9	.....	.....	.....	23 58
	3	3 36	3 17	2 56	2 32	2 19	2 3	1 43	1 19	1 8	0 54	0 39	0 21	.....
	4	4 24	4 7	3 49	3 28	3 15	3 1	2 44	2 23	2 13	2 2	1 49	1 34	1 16
	5	5 11	4 56	4 41	4 23	4 13	4 1	3 47	3 30	3 22	3 13	3 3	2 51	2 37
	6	5 55	5 44	5 32	5 18	5 10	5 1	4 51	4 38	4 32	4 25	4 18	4 9	4 0
	7	6 37	6 30	6 21	6 12	6 7	6 1	5 54	5 46	5 42	5 37	5 32	5 27	5 21
	8	7 18	7 14	7 10	7 6	7 3	7 0	6 57	6 53	6 51	6 48	6 46	6 44	6 41
	9	7 58	7 59	7 59	7 59	7 59	7 59	7 59	7 59	8 0	8 0	8 0	8 0	8 0
	10	8 39	8 44	8 48	8 53	8 56	8 59	9 3	9 7	9 10	9 12	9 14	9 17	9 21
	11	9 22	9 30	9 38	9 48	9 54	10 0	10 8	10 17	10 21	10 26	10 31	10 37	10 43
	12	10 7	10 19	10 31	10 45	10 54	11 3	11 15	11 28	11 35	11 42	11 50	11 59	12 9
	13	10 55	11 10	11 27	11 45	11 56	12 9	12 24	12 42	12 51	13 1	13 12	13 24	13 40
	14	11 48	12 6	12 25	12 47	13 0	13 15	13 34	13 56	14 7	14 19	14 34	14 50	15 10
	15	12 44	13 4	13 26	13 50	14 4	14 21	14 42	15 7	15 20	15 34	15 50	16 10	16 35
	16	13 44	14 4	14 26	14 51	15 6	15 23	15 44	16 9	16 22	16 36	16 53	17 13	17 38
	17	14 46	15 5	15 25	15 48	16 2	16 18	16 37	17 0	17 12	17 24	17 39	17 56	18 17

TABLE III.

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH,
1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Jan.	0	12 11	12 19	12 28	12 39	12 44	12 51	12 59	13 8	13 13	13 18	13 23	13 29	13 36
	1	12 59	13 11	13 25	13 40	13 48	13 58	14 10	14 24	14 31	14 39	14 47	14 57	15 8
	2	13 48	14 4	14 21	14 40	14 51	15 4	15 20	15 39	15 48	15 58	16 9	16 22	16 38
	3	14 39	14 57	15 17	15 39	15 53	16 8	16 26	16 49	17 0	17 12	17 27	17 44	18 4
	4	15 31	15 51	16 12	16 36	16 51	17 7	17 28	17 53	18 5	18 19	18 35	18 55	19 20
	5	16 23	16 43	17 4	17 29	17 44	18 1	18 22	18 47	19 0	19 14	19 30	19 50	20 15
	6	17 14	17 33	17 54	18 18	18 32	18 48	19 7	19 31	19 42	19 56	20 11	20 28	20 50
	7	18 3	18 21	18 39	19 0	19 13	19 27	19 44	20 5	20 15	20 26	20 39	20 53	21 10
	8	18 50	19 5	19 21	19 38	19 49	20 1	20 15	20 32	20 40	20 49	20 59	21 10	21 23
	9	19 35	19 46	19 58	20 12	20 21	20 30	20 40	20 53	20 59	21 6	21 13	21 21	21 30
	10	20 17	20 25	20 34	20 43	20 49	20 55	21 2	21 11	21 15	21 20	21 24	21 30	21 36
	11	20 58	21 2	21 7	21 12	21 15	21 18	21 22	21 27	21 29	21 31	21 34	21 36	21 40
	12	21 38	21 39	21 39	21 40	21 40	21 40	21 41	21 41	21 42	21 42	21 42	21 42	21 43
	13	22 19	22 16	22 12	22 8	22 6	22 3	22 0	21 56	21 55	21 53	21 51	21 49	21 46
	14	23 1	22 54	22 46	22 38	22 32	22 27	22 20	22 12	22 9	22 5	22 0	21 56	21 50
	15	23 46	23 35	23 23	23 10	23 2	22 53	22 43	22 31	22 25	22 19	22 12	22 4	21 55
	16	....	....	....	23 47	23 36	23 24	23 10	22 54	22 46	22 37	22 27	22 16	22 3
	17	0 35	0 20	0 5	....	....	....	23 45	23 24	23 14	23 4	22 50	22 34	22 17
	18	1 28	1 11	0 52	0 30	0 17	0 3	....	....	23 53	23 20	23 24	23 5	22 42
	19	2 27	2 7	1 46	1 22	1 7	0 50	0 30	0 6	....	....	....	23 57	23 31
	20	3 29	3 9	2 47	2 22	2 6	1 49	1 28	1 2	0 49	0 35	0 18	....	....
	21	4 33	4 14	3 53	3 29	3 15	2 59	2 40	2 15	2 4	1 50	1 34	1 16	0 53
	22	5 36	5 19	5 2	4 42	4 30	4 16	4 0	3 40	3 30	3 20	3 7	2 53	2 36
	23	6 36	6 23	6 10	5 55	5 46	5 36	5 24	5 10	5 3	4 55	4 47	4 37	4 26
	24	7 32	7 24	7 16	7 7	7 2	6 55	6 48	6 40	6 35	6 31	6 26	6 21	6 14
	25	8 25	8 22	8 19	8 16	8 14	8 12	8 9	8 6	8 5	8 3	8 2	8 0	7 58
	26	9 15	9 18	9 20	9 22	9 24	9 26	9 28	9 30	9 31	9 32	9 34	9 35	9 36
	27	10 5	10 12	10 19	10 27	10 32	10 37	10 44	10 51	10 54	10 58	11 3	11 8	11 13
	28	10 54	11 5	11 17	11 30	11 38	11 47	11 57	12 10	12 16	12 23	12 30	12 38	12 48
	29	11 44	11 59	12 15	12 33	12 43	12 55	13 9	13 27	13 35	13 44	13 55	14 7	14 21
Feb.	30	12 35	12 53	13 12	13 33	13 46	14 0	14 18	14 40	14 50	15 2	15 15	15 31	15 50
	31	13 27	13 46	14 7	14 31	14 46	15 2	15 22	15 46	15 58	16 12	16 28	16 46	17 10
	1	14 19	14 39	15 0	15 26	15 40	15 57	16 18	16 44	16 56	17 10	17 27	17 47	18 12
	2	15 10	15 30	15 51	16 15	16 30	16 46	17 6	17 30	17 42	17 56	18 12	18 30	18 53
	3	16 0	16 18	16 39	17 0	17 13	17 28	17 45	18 7	18 18	18 30	18 43	18 59	19 17
	4	16 47	17 3	17 20	17 39	17 50	18 3	18 18	18 36	18 45	18 54	19 5	19 18	19 32
	5	17 32	17 45	17 59	18 14	18 23	18 33	18 45	18 59	19 6	19 13	19 21	19 31	19 41
	6	18 16	18 25	18 35	18 46	18 52	19 0	19 8	19 18	19 23	19 28	19 33	19 40	19 47
	7	18 57	19 3	19 9	19 16	19 19	19 24	19 29	19 35	19 37	19 40	19 44	19 47	19 51
	8	19 38	19 40	19 42	19 44	19 45	19 46	19 48	19 50	19 51	19 52	19 52	19 54	19 55
	9	20 18	20 16	20 14	20 12	20 10	20 9	20 7	20 5	20 4	20 2	20 1	20 0	19 58
	10	21 0	20 54	20 48	20 40	20 36	20 32	20 26	20 20	20 17	20 14	20 10	20 6	20 2
	11	21 43	21 34	21 23	21 12	21 5	20 57	20 48	20 38	20 32	20 27	20 20	20 14	20 7
	12	22 30	22 17	22 2	21 46	21 37	21 26	21 13	20 58	20 51	20 43	20 34	20 25	20 14
	13	23 20	23 4	22 46	22 26	22 14	22 0	21 44	21 25	21 15	21 5	20 53	20 40	20 24
	14	....	23 56	23 35	23 12	22 58	22 42	22 23	22 0	21 49	21 36	21 21	21 4	20 43
	15	0 14	....	....	....	23 51	23 34	23 14	22 48	22 35	22 21	22 4	21 44	21 19
	16	1 13	0 52	0 31	0 6	....	....	....	23 50	23 38	23 24	23 7	22 47	22 23
	17	2 14	1 54	1 32	1 8	0 53	0 36	0 16	....	....	....	....	....	2

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Feb.	16	13 44	14 4	14 26	14 51	15 6	15 23	15 44	16 9	16 22	16 36	16 53	17 13	17 38
	17	14 46	15 5	15 25	15 48	16 2	16 18	16 37	17 0	17 12	17 24	17 39	17 56	18 17
	18	15 47	16 3	16 20	16 40	16 52	17 5	17 21	17 40	17 48	17 58	18 10	18 22	18 38
	19	16 46	16 58	17 11	17 26	17 35	17 45	17 56	18 10	18 16	18 23	18 31	18 40	18 50
	20	17 42	17 50	17 58	18 7	18 13	18 19	18 26	18 34	18 38	18 42	18 47	18 52	18 58
	21	18 36	18 39	18 42	18 45	18 47	18 50	18 52	18 55	18 57	18 58	19 0	19 2	19 4
	22	19 28	19 26	19 24	19 22	19 20	19 19	19 17	19 15	19 14	19 13	19 12	19 11	19 9
	23	20 19	20 12	20 5	19 57	19 53	19 48	19 42	19 35	19 31	19 28	19 24	19 20	19 15
	24	21 10	20 59	20 48	20 34	20 27	20 18	20 8	19 56	19 50	19 44	19 38	19 30	19 21
	25	22 2	21 47	21 32	21 14	21 4	20 52	20 38	20 21	20 14	20 5	19 55	19 44	19 32
	26	22 55	22 37	22 18	21 57	21 44	21 30	21 13	20 52	20 42	20 31	20 18	20 4	19 46
	27	23 48	23 28	23 8	22 44	22 30	22 13	21 54	21 30	21 18	21 5	20 50	20 32	20 10
	28	....	....	23 59	23 34	23 19	23 2	22 42	22 17	22 4	21 50	21 34	21 14	20 50
Mar.	1	0 40	0 20	....	....	....	23 57	23 37	23 12	23 0	22 47	22 31	22 12	21 49
	2	1 31	1 12	0 51	0 27	0 13	....	....	....	....	23 52	23 38	23 22	23 3
	3	2 21	2 3	1 44	1 22	1 9	0 54	0 36	0 14	0 4	....	....	....	....
	4	3 8	2 52	2 36	2 17	2 6	1 54	1 39	1 29	1 12	1 2	0 51	0 38	0 23
	5	3 52	3 40	3 27	3 12	3 4	2 54	2 42	2 28	2 21	2 14	2 5	1 56	1 45
	6	4 35	4 27	4 17	4 6	4 0	3 53	3 45	3 35	3 31	3 25	3 20	3 13	3 6
	7	5 17	5 12	5 6	5 0	4 57	4 53	4 48	4 42	4 40	4 37	4 34	4 30	4 26
	8	5 58	5 56	5 55	5 54	5 53	5 52	5 51	5 50	5 49	5 48	5 48	5 47	5 46
	9	6 39	6 42	6 45	6 48	6 50	6 52	6 54	6 58	6 59	7 0	7 2	7 4	7 7
	10	7 21	7 28	7 35	7 43	7 48	7 53	7 59	8 7	8 10	8 14	8 18	8 23	8 29
	11	8 6	8 16	8 27	8 40	8 48	8 56	9 6	9 18	9 24	9 30	9 37	9 45	9 54
	12	8 53	9 7	9 22	9 39	9 49	10 1	10 14	10 31	10 39	10 48	10 58	11 9	11 23
	13	9 44	10 1	10 19	10 40	10 52	11 7	11 24	11 45	11 55	12 6	12 19	12 34	12 52
	14	10 38	10 57	11 18	11 41	11 56	12 12	12 31	12 56	13 8	13 21	13 37	13 55	14 18
	15	11 36	11 56	12 17	12 42	12 56	13 13	13 34	13 59	14 12	14 26	14 43	15 2	15 27
	16	12 35	12 54	13 15	13 39	13 53	14 9	14 29	14 53	15 5	15 18	15 33	15 52	16 14
	17	13 34	13 51	14 9	14 31	14 43	14 58	15 14	15 35	15 45	15 56	16 9	16 23	16 40
	18	14 31	14 45	15 0	15 17	15 27	15 39	15 52	16 8	16 15	16 24	16 33	16 44	16 56
	19	15 27	15 37	15 47	15 59	16 6	16 14	16 23	16 34	16 39	16 45	16 51	16 58	17 5
	20	16 20	16 26	16 31	16 38	16 41	16 46	16 51	16 56	16 59	17 2	17 5	17 9	17 12
	21	17 12	17 13	17 14	17 14	17 15	17 15	17 16	17 16	17 17	17 17	17 18	17 18	17 18
	22	18 4	18 0	17 55	17 50	17 48	17 44	17 41	17 36	17 34	17 32	17 30	17 27	17 24
	23	18 56	18 47	18 38	18 27	18 21	18 14	18 6	17 57	17 53	17 48	17 43	17 37	17 31
	24	19 48	19 36	19 22	19 7	18 58	18 47	18 35	18 21	18 15	18 7	17 59	17 50	17 39
	25	20 42	20 26	20 9	19 49	19 38	19 24	19 9	18 50	18 41	18 32	18 20	18 8	17 53
	26	21 36	21 18	20 58	20 35	20 22	20 7	19 49	19 26	19 15	19 3	18 49	18 33	18 14
	27	22 31	22 11	21 50	21 26	21 11	20 55	20 35	20 10	19 58	19 45	19 29	19 10	18 48
	28	23 24	23 4	22 43	22 19	22 5	21 48	21 28	21 4	20 52	20 38	20 22	20 4	19 40
	29	....	23 56	23 37	23 14	23 1	22 45	22 27	22 4	21 53	21 41	21 26	21 9	20 49
	30	0 15	....	....	....	23 58	23 45	23 29	23 9	23 0	22 49	22 38	22 24	22 8
Apr.	31	1 3	0 47	0 29	0 10	....	....	....	....	....	....	23 52	23 41	23 29
	1	1 48	1 35	1 21	1 5	0 55	0 45	0 32	0 16	0 9	0 1	....	....	....
	2	2 32	2 22	2 11	1 59	1 52	1 44	1 35	1 23	1 18	1 12	1 6	0 58	0 50
	3	3 14	3 7	3 1	2 53	2 48	2 43	2 38	2 30	2 27	2 24	2 20	2 15	2 10

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH.
1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
Feb. 16		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
16		1 13	0 52	0 31	0 6	.....	.....	.....	23 50	23 38	23 24	23 7	22 47	22 23
17		2 14	1 54	1 32	1 8	0 53	0 36	0 16	.....	.....	.....	.....	.....	23 54
18		3 15	2 57	2 38	2 16	2 3	1 48	1 30	1 7	0 56	0 44	0 30	0 14	.....
19		4 15	4 1	3 45	3 27	3 17	3 5	2 50	2 33	2 24	2 15	2 4	1 52	1 38
20		5 13	5 3	4 52	4 39	4 32	4 24	4 14	4 2	3 56	3 50	3 43	3 35	3 27
21		6 8	6 2	5 57	5 50	5 46	5 42	5 37	5 31	5 28	5 24	5 21	5 17	5 13
22		7 0	7 0	7 0	6 59	6 59	6 58	6 58	6 57	6 57	6 57	6 56	6 56	6 56
23		7 52	7 57	8 1	8 7	8 10	8 13	8 18	8 22	8 24	8 27	8 30	8 33	8 36
24		8 43	8 52	9 2	9 13	9 19	9 26	9 35	9 45	9 50	9 55	10 1	10 7	10 15
25		9 35	9 48	10 2	10 18	10 27	10 38	10 50	11 6	11 13	11 21	11 30	11 41	11 52
26		10 27	10 44	11 1	11 21	11 33	11 47	12 3	12 23	12 32	12 43	12 56	13 10	13 26
27		11 20	11 39	11 59	12 22	12 36	12 52	13 10	13 34	13 45	13 58	14 13	14 31	14 52
28		12 13	12 33	12 54	13 19	13 34	13 50	14 10	14 36	14 48	15 2	15 19	15 38	16 2
Mar. 1		13 5	13 25	13 46	14 11	14 25	14 42	15 2	15 27	15 39	15 53	16 9	16 28	16 51
2		13 56	14 14	14 34	14 57	15 11	15 26	15 45	16 8	16 18	16 31	16 45	17 2	17 22
3		14 44	15 1	15 18	15 38	15 50	16 4	16 20	16 39	16 48	16 58	17 10	17 23	17 39
4		15 30	15 44	15 58	16 15	16 24	16 36	16 48	17 4	17 11	17 19	17 28	17 38	17 50
5		16 14	16 24	16 35	16 48	16 55	17 3	17 13	17 24	17 30	17 35	17 42	17 49	17 57
6		16 56	17 2	17 10	17 18	17 23	17 28	17 34	17 42	17 45	17 49	17 53	17 58	18 3
7		17 37	17 40	17 43	17 47	17 49	17 52	17 54	17 58	17 59	18 0	18 2	18 4	18 7
8		18 18	18 17	18 16	18 15	18 15	18 14	18 13	18 12	18 12	18 12	18 11	18 11	18 10
9		18 59	18 55	18 50	18 44	18 41	18 37	18 33	18 28	18 26	18 23	18 20	18 18	18 14
10		19 42	19 34	19 25	19 15	19 9	19 2	18 54	18 45	18 41	18 36	18 31	18 25	18 19
11		20 28	20 16	20 3	19 48	19 40	19 30	19 19	19 5	18 59	18 52	18 44	18 35	18 25
12		21 17	21 1	20 45	20 26	20 15	20 2	19 47	19 30	19 21	19 12	19 1	18 49	18 35
13		22 9	21 51	21 32	21 10	20 57	20 42	20 24	20 2	19 51	19 39	19 26	19 10	18 52
14		23 5	22 46	22 24	22 0	21 46	21 29	21 10	20 45	20 32	20 19	20 3	19 44	19 21
15		23 44	23 22	22 58	22 43	22 26	22 6	21 40	21 28	21 14	20 57	20 37	20 12
16		0 4	.....	.....	.....	23 47	23 32	23 13	22 49	22 38	22 25	22 10	21 52	21 30
17		1 3	0 44	0 24	0 1	.....	.....	.....	.....	23 59	23 48	23 36	23 23	23 6
18		2 1	1 45	1 28	1 8	0 57	0 44	0 28	0 8	.....	.....	.....	.....	.....
19		2 58	2 46	2 33	2 18	2 9	1 59	1 47	1 32	1 26	1 18	1 10	1 0	0 49
20		3 52	3 45	3 36	3 27	3 21	3 15	3 8	2 58	2 54	2 50	2 44	2 39	2 32
21		4 45	4 42	4 39	4 35	4 33	4 30	4 28	4 24	4 23	4 21	4 19	4 17	4 14
22		5 37	5 39	5 41	5 43	5 44	5 45	5 47	5 49	5 50	5 51	5 52	5 53	5 55
23		6 28	6 35	6 42	6 50	6 54	7 0	7 6	7 13	7 16	7 20	7 25	7 29	7 34
24		7 20	7 32	7 43	7 57	8 4	8 13	8 24	8 36	8 42	8 49	8 56	9 4	9 14
25		8 14	8 29	8 44	9 2	9 13	9 25	9 40	9 57	10 5	10 15	10 25	10 37	10 51
26		9 8	9 26	9 45	10 6	10 19	10 34	10 51	11 13	11 24	11 36	11 49	12 5	12 24
27		10 3	10 22	10 43	11 7	11 21	11 37	11 57	12 21	12 33	12 46	13 2	13 20	13 43
28		10 56	11 16	11 38	12 2	12 16	12 33	12 53	13 18	13 30	13 44	14 0	14 19	14 42
29		11 49	12 8	12 28	12 52	13 5	13 21	13 40	14 4	14 15	14 28	14 42	15 0	15 21
30		12 38	12 55	13 14	13 35	13 48	14 2	14 18	14 39	14 49	15 0	15 12	15 26	15 43
31		13 25	13 40	13 56	14 13	14 24	14 36	14 50	15 6	15 14	15 23	15 33	15 44	15 57
Apr. 1		14 10	14 22	14 34	14 48	14 56	15 5	15 16	15 29	15 34	15 41	15 48	15 56	16 6
2		14 53	15 1	15 9	15 19	15 25	15 31	15 38	15 47	15 51	15 55	16 0	16 6	16 12
3		15 34	15 38	15 48	15 48	15 51	15 55	15 59	16 4	16 6	16 8	16 10	16 13	16 16

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH,
1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Apr.	1	1 48	1 35	1 21	1 5	0 55	0 45	0 32	0 16	0 9	0 1	...	...	...
	2	2 32	2 22	2 11	1 59	1 52	1 44	1 35	1 23	1 18	1 12	1 6	0 58	0 50
	3	3 14	3 7	3 1	2 53	2 48	2 43	2 38	2 30	2 27	2 24	2 20	2 15	2 10
	4	3 55	3 52	3 50	3 46	3 45	3 43	3 40	3 38	3 36	3 35	3 33	3 31	3 30
	5	4 36	4 37	4 39	4 40	4 41	4 42	4 44	4 45	4 46	4 47	4 48	4 49	4 50
	6	5 18	5 24	5 29	5 36	5 39	5 44	5 48	5 54	5 57	6 0	6 3	6 7	6 12
	7	6 3	6 12	6 22	6 33	6 39	6 46	6 55	7 6	7 10	7 16	7 22	7 29	7 36
	8	6 50	7 2	7 16	7 32	7 41	7 51	8 4	8 19	8 26	8 34	8 43	8 53	9 5
	9	7 40	7 56	8 13	8 33	8 44	8 58	9 14	9 33	9 43	9 53	10 5	10 19	10 35
	10	8 34	8 52	9 12	9 35	9 48	10 4	10 23	10 46	10 57	11 10	11 25	11 42	12 3
	11	9 31	9 50	10 12	10 36	10 50	11 7	11 27	11 52	12 4	12 18	12 34	12 54	13 18
	12	10 29	10 49	11 10	11 34	11 48	12 4	12 24	12 49	13 1	13 14	13 30	13 48	14 10
	13	11 28	11 45	12 4	12 26	12 40	12 54	13 12	13 34	13 44	13 56	14 9	14 24	14 42
	14	12 24	12 39	12 55	13 14	13 24	13 37	13 51	14 9	14 17	14 26	14 36	14 48	15 1
	15	13 19	13 30	13 42	13 56	14 4	14 13	14 24	14 36	14 42	14 48	14 56	15 4	15 12
	16	14 11	14 18	14 26	14 34	14 39	14 45	14 51	14 59	15 2	15 6	15 10	15 15	15 20
	17	15 2	15 5	15 7	15 10	15 12	15 14	15 17	15 19	15 20	15 22	15 23	15 25	15 27
	18	15 52	15 50	15 48	15 46	15 44	15 43	15 41	15 39	15 38	15 37	15 35	15 34	15 33
	19	16 43	16 36	16 29	16 21	16 17	16 12	16 6	15 59	15 55	15 52	15 48	15 44	15 39
	20	17 34	17 24	17 12	16 59	16 52	16 43	16 38	16 21	16 16	16 10	16 3	15 55	15 47
	21	18 28	18 13	17 58	17 40	17 30	17 18	17 4	16 48	16 40	16 32	16 22	16 11	15 58
	22	19 22	19 5	18 47	18 25	18 13	17 58	17 42	17 21	17 11	17 0	16 48	16 33	16 16
	23	20 18	19 59	19 38	19 15	19 1	18 45	18 26	18 2	17 51	17 38	17 23	17 6	16 45
	24	21 12	20 53	20 32	20 8	19 53	19 37	19 17	18 53	18 41	18 27	18 11	17 53	17 30
	25	22 5	21 46	21 26	21 3	20 49	20 34	20 15	19 51	19 40	19 27	19 12	18 55	18 33
	26	22 55	22 38	22 20	21 59	21 47	21 33	21 16	20 56	20 46	20 35	20 22	20 8	19 50
	27	23 42	23 28	23 13	22 55	22 45	22 34	22 20	22 3	21 55	21 46	21 36	21 24	21 11
	28	...	...	...	23 50	23 42	23 33	23 23	23 10	23 4	22 57	22 50	22 42	22 32
	29	0 27	0 16	0 4	...	...	...	...	...	...	...	...	23 58	23 52
	30	1 9	1 2	0 53	0 44	0 39	0 33	0 25	0 17	0 13	0 8	0 4	...	...
May	1	1 50	1 46	1 42	1 37	1 34	1 32	1 28	1 24	1 22	1 19	1 17	1 14	1 11
	2	2 31	2 31	2 31	2 31	2 31	2 31	2 30	2 30	2 30	2 30	2 30	2 30	2 30
	3	3 13	3 17	3 21	3 25	3 28	3 31	3 34	3 38	3 41	3 43	3 45	3 48	3 51
	4	3 56	4 4	4 12	4 22	4 27	4 33	4 40	4 49	4 53	4 57	5 2	5 8	5 14
	5	4 43	4 54	5 6	5 20	5 28	5 37	5 49	6 2	6 8	6 15	6 23	6 32	6 41
	6	5 32	5 47	6 3	6 21	6 32	6 44	6 59	7 17	7 25	7 35	7 46	7 58	8 12
	7	6 26	6 44	7 3	7 24	7 37	7 52	8 10	8 32	8 42	8 54	9 8	9 24	9 43
	8	7 23	7 43	8 3	8 27	8 41	8 58	9 17	9 42	9 54	10 7	10 23	10 42	11 4
	9	8 23	8 42	9 3	9 28	9 42	9 58	10 18	10 43	10 55	11 9	11 24	11 43	12 6
	10	9 22	9 40	10 0	10 23	10 36	10 52	11 10	11 32	11 43	11 55	12 9	12 25	12 44
	11	10 20	10 36	10 52	11 12	11 23	11 36	11 52	12 10	12 19	12 28	12 39	12 52	13 6
	12	11 15	11 28	11 41	11 56	12 4	12 14	12 26	12 39	12 46	12 53	13 1	13 10	13 20
	13	12 8	12 16	12 25	12 35	12 40	12 47	12 55	13 4	13 8	13 12	13 17	13 23	13 29
	14	12 58	13 2	13 6	13 11	13 13	13 16	13 20	13 24	13 26	13 28	13 30	13 33	13 36
	15	13 47	13 46	13 46	13 45	13 45	13 44	13 44	13 43	13 43	13 43	13 42	13 42	13 42
	16	14 36	14 31	14 26	14 20	14 16	14 12	14 8	14 2	14 0	13 58	13 54	13 51	13 48
	17	15 26	15 17	15 7	14 56	14 49	14 42	14 34	14 24	14 19	14 14	14 9	14 2	13 55

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1917.

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To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Lat. Date.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
Apr. 1	h m 14 10	h m 14 22	h m 14 34	h m 14 48	h m 14 56	h m 15 5	h m 15 16	h m 15 29	h m 15 34	h m 15 41	h m 15 48	h m 15 56	h m 16 6
2	14 53	15 1	15 9	15 19	15 25	15 31	15 38	15 47	15 51	15 55	16 0	16 6	16 12
3	15 34	15 38	15 43	15 48	15 51	15 55	15 59	16 4	16 6	16 8	16 10	16 13	16 16
4	16 15	16 16	16 16	16 17	16 17	16 18	16 18	16 19	16 19	16 20	16 20	16 20	16 21
5	16 56	16 53	16 50	16 46	16 44	16 41	16 38	16 35	16 33	16 32	16 29	16 27	16 25
6	17 40	17 32	17 25	17 16	17 11	17 6	16 59	16 52	16 48	16 44	16 40	16 35	16 30
7	18 25	18 14	18 3	17 49	17 42	17 33	17 23	17 11	17 6	16 59	16 52	16 45	16 36
8	19 13	18 59	18 44	18 26	18 16	18 5	17 51	17 35	17 27	17 18	17 9	16 58	16 46
9	20 6	19 48	19 30	19 9	18 56	18 42	18 26	18 5	17 55	17 44	17 32	17 17	17 0
10	21 1	20 42	20 21	19 58	19 44	19 28	19 9	18 45	18 33	18 20	18 5	17 48	17 26
11	21 59	21 39	21 18	20 53	20 39	20 22	20 2	19 36	19 24	19 10	18 54	18 34	18 10
12	22 57	22 38	22 18	21 54	21 41	21 24	21 5	20 41	20 29	20 16	20 1	19 43	19 20
13	23 55	23 38	23 20	23 0	22 48	22 34	22 17	21 56	21 46	21 35	21 22	21 8	20 50
14	...	...	...	...	23 57	23 46	23 33	23 16	23 9	23 1	22 51	22 40	22 28
15	0 51	0 37	0 23	0 6	...	...	...	...	...	...	...	...	...
16	1 44	1 35	1 25	1 13	1 7	0 59	0 50	0 39	0 34	0 29	0 22	0 15	0 7
17	2 36	2 31	2 25	2 20	2 16	2 12	2 7	2 2	1 59	1 56	1 53	1 50	1 46
18	3 26	3 26	3 25	3 25	3 25	3 25	3 25	3 24	3 24	3 24	3 24	3 23	3 23
19	4 16	4 21	4 25	4 31	4 34	4 37	4 42	4 46	4 48	4 51	4 54	4 57	5 0
20	5 7	5 16	5 26	5 36	5 43	5 50	5 58	6 8	6 13	6 18	6 24	6 30	6 38
21	6 0	6 13	6 26	6 42	6 52	7 2	7 14	7 30	7 37	7 45	7 54	8 4	8 15
22	6 54	7 10	7 28	7 48	7 59	8 13	8 29	8 48	8 58	9 8	9 21	9 34	9 51
23	7 49	8 8	8 23	8 50	9 4	9 19	9 38	10 1	10 12	10 25	10 40	10 57	11 18
24	8 44	9 4	9 25	9 49	10 3	10 20	10 40	11 4	11 16	11 30	11 46	12 4	12 28
25	9 38	9 57	10 18	10 42	10 56	11 12	11 31	11 56	12 7	12 20	12 36	12 53	13 15
26	10 30	10 48	11 7	11 29	11 42	11 56	12 14	12 36	12 46	12 57	13 10	13 26	13 44
27	11 18	11 34	11 51	12 10	12 21	12 33	12 48	13 6	13 15	13 24	13 35	13 47	14 1
28	12 4	12 17	12 30	12 46	12 55	13 5	13 16	13 31	13 37	13 44	13 53	14 2	14 12
29	12 48	12 57	13 7	13 18	13 25	13 32	13 41	13 51	13 55	14 1	14 6	14 13	14 20
30	13 29	13 35	13 41	13 48	13 52	13 57	14 2	14 8	14 11	14 14	14 17	14 21	14 25
May 1	14 10	14 12	14 15	14 17	14 18	14 20	14 22	14 24	14 25	14 26	14 27	14 28	14 30
2	14 52	14 50	14 48	14 46	14 44	14 43	14 42	14 40	14 39	14 38	14 37	14 36	14 34
3	15 34	15 28	15 22	15 16	15 12	15 7	15 2	14 56	14 53	14 50	14 47	14 43	14 39
4	16 18	16 9	15 59	15 48	15 41	15 34	15 25	15 14	15 10	15 4	14 59	14 52	14 45
5	17 6	16 53	16 39	16 24	16 14	16 4	15 52	15 37	15 30	15 22	15 14	15 4	14 54
6	17 58	17 42	17 24	17 5	16 53	16 40	16 24	16 5	15 56	15 46	15 35	15 22	15 6
7	18 53	18 35	18 15	17 52	17 39	17 23	17 5	16 42	16 31	16 19	16 6	15 49	15 29
8	19 52	19 32	19 11	18 47	18 32	18 16	17 56	17 31	17 19	17 6	16 50	16 31	16 8
9	20 51	20 32	20 11	19 48	19 33	19 17	18 58	18 33	18 22	18 8	17 52	17 34	17 11
10	21 50	21 33	21 14	20 53	20 40	20 26	20 8	19 46	19 36	19 24	19 11	18 55	18 37
11	22 47	22 32	22 17	22 0	21 49	21 37	21 23	21 6	20 58	20 49	20 38	20 27	20 13
12	23 41	23 30	23 19	23 6	22 59	22 50	22 40	22 28	22 22	22 16	22 9	22 1	21 52
13	...	...	...	...	...	...	23 56	23 49	23 46	23 42	23 38	23 34	23 29
14	0 32	0 26	0 19	0 12	0 7	0 2	...	...	...	...	...	...	...
15	1 22	1 20	1 18	1 16	1 15	1 13	1 12	1 10	1 9	1 8	1 7	1 6	1 4
16	2 10	2 13	2 16	2 20	2 22	2 24	2 26	2 30	2 31	2 33	2 35	2 36	2 39
17	3 0	3 7	3 16	3 24	3 29	3 34	3 41	3 49	3 53	3 57	4 2	4 7	4 13

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Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
May	17	15 26	15 17	15 7	14 56	14 49	14 42	14 34	14 24	14 19	14 14	14 9	14 2	13 55
	18	16 17	16 4	15 50	15 34	15 25	15 15	15 2	14 48	14 41	14 34	14 25	14 15	14 5
	19	17 11	16 54	16 37	16 17	16 6	15 52	15 37	15 18	15 9	14 59	14 48	14 35	14 20
	20	18 5	17 47	17 27	17 4	16 51	16 36	16 18	15 55	15 44	15 32	15 18	15 2	14 43
	21	19 0	18 41	18 20	17 56	17 42	17 26	17 6	16 42	16 30	16 17	16 2	15 44	15 21
	22	19 54	19 35	19 15	18 51	18 37	18 21	18 2	17 38	17 26	17 13	16 58	16 40	16 18
	23	20 46	20 28	20 10	19 48	19 35	19 20	19 3	18 41	18 30	18 19	18 5	17 49	17 30
	24	21 35	21 20	21 3	20 44	20 34	20 21	20 6	19 47	19 39	19 29	19 18	19 5	18 50
	25	22 21	22 8	21 55	21 40	21 32	21 22	21 10	20 55	20 49	20 41	20 33	20 23	20 13
	26	23 4	22 55	22 46	22 35	22 28	22 21	22 13	22 3	21 58	21 53	21 47	21 41	21 33
	27	23 46	23 40	23 34	23 28	23 24	23 20	23 15	23 9	23 6	23 3	23 0	22 56	22 52
	28	...	...	...	...	...	...	...	...	...	...	...	...	...
	29	0 26	0 25	0 23	0 21	0 20	0 18	0 17	0 15	0 15	0 14	0 13	0 12	0 10
	30	1 7	1 9	1 12	1 14	1 16	1 18	1 20	1 22	1 23	1 24	1 26	1 27	1 29
	31	1 49	1 55	2 2	2 9	2 13	2 18	2 24	2 30	2 34	2 37	2 41	2 45	2 50
June	1	2 34	2 44	2 54	3 6	3 13	3 21	3 30	3 42	3 47	3 53	3 59	4 6	4 15
	2	3 22	3 35	3 50	4 6	4 16	4 26	4 40	4 55	5 3	5 11	5 21	5 31	5 44
	3	4 14	4 30	4 48	5 8	5 20	5 34	5 50	6 11	6 21	6 31	6 44	6 58	7 15
	4	5 10	5 29	5 49	6 12	6 26	6 42	7 1	7 24	7 36	7 49	8 4	8 22	8 43
	5	6 10	6 29	6 51	7 15	7 29	7 46	8 6	8 31	8 43	8 57	9 13	9 32	9 55
	6	7 11	7 30	7 50	8 14	8 28	8 44	9 3	9 26	9 37	9 50	10 5	10 22	10 43
	7	8 12	8 23	8 46	9 7	9 19	9 33	9 49	10 9	10 18	10 29	10 41	10 55	11 11
	8	9 9	9 23	9 37	9 54	10 3	10 14	10 27	10 42	10 49	10 57	11 6	11 16	11 27
	9	10 4	10 13	10 23	10 35	10 41	10 49	10 58	11 8	11 13	11 18	11 24	11 30	11 38
	10	10 55	11 0	11 6	11 12	11 16	11 20	11 25	11 30	11 32	11 35	11 38	11 42	11 46
	11	11 45	11 46	11 46	11 47	11 48	11 48	11 49	11 50	11 50	11 50	11 51	11 51	11 52
	12	12 34	12 30	12 26	12 21	12 19	12 16	12 13	12 8	12 7	12 5	12 3	12 0	11 58
	13	13 22	13 14	13 6	12 56	12 51	12 44	12 37	12 29	12 25	12 20	12 16	12 10	12 4
	14	14 12	14 1	13 48	13 33	13 25	13 16	13 4	12 51	12 45	12 38	12 31	12 22	12 13
	15	15 4	14 49	14 33	14 14	14 3	13 51	13 36	13 18	13 10	13 1	12 51	12 39	12 26
	16	15 57	15 40	15 21	14 59	14 46	14 31	14 14	13 52	13 42	13 31	13 18	13 3	12 45
	17	16 52	16 32	16 12	15 48	15 34	15 18	14 59	14 35	14 23	14 10	13 55	13 38	13 16
	18	17 46	17 26	17 6	16 42	16 28	16 11	15 52	15 27	15 15	15 2	14 46	14 28	14 5
	19	18 38	18 20	18 0	17 38	17 24	17 9	16 51	16 28	16 17	16 4	15 50	15 33	15 13
	20	19 28	19 12	18 54	18 34	18 23	18 9	17 53	17 33	17 24	17 13	17 1	16 47	16 31
	21	20 15	20 2	19 47	19 31	19 21	19 10	18 57	18 41	18 34	18 25	18 16	18 5	17 53
	22	21 0	20 49	20 38	20 26	20 18	20 10	20 1	19 49	19 43	19 37	19 31	19 23	19 14
	23	21 42	21 35	21 28	21 20	21 15	21 10	21 3	20 56	20 52	20 48	20 44	20 39	20 34
	24	22 22	22 19	22 16	22 12	22 10	22 8	22 5	22 2	22 0	21 58	21 56	21 54	21 52
	25	23 3	23 3	23 4	23 5	23 5	23 6	23 7	23 8	23 8	23 8	23 9	23 9	23 10
	26	23 44	23 48	23 53	23 58	...	...	...	...	...	...	...	...	...
	27	...	...	...	...	0 1	0 5	0 9	0 14	0 16	0 19	0 22	0 25	0 29
	28	0 26	0 34	0 43	0 53	0 59	1 6	1 14	1 23	1 27	1 32	1 38	1 44	1 50
	29	1 12	1 23	1 36	1 50	1 59	2 9	2 20	2 34	2 41	2 48	2 56	3 5	3 16
	30	2 1	2 16	2 32	2 51	3 2	3 14	3 29	3 48	3 56	4 6	4 17	4 30	4 45
July	1	2 55	3 13	3 32	3 54	4 7	4 22	4 39	5 2	5 12	5 25	5 39	5 55	6 15
	2	3 53	4 12	4 33	4 57	5 11	5 28	5 47	6 12	6 24	6 38	6 54	7 12	7 36

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1917.

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Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
May	17	3 0	3 7	3 15	3 24	3 29	3 34	3 41	3 49	3 53	3 57	4 2	4 7	4 13
	18	3 50	4 2	4 14	4 28	4 36	4 45	4 56	5 9	5 15	5 22	5 29	5 38	5 48
	19	4 43	4 58	5 14	5 32	5 43	5 55	6 9	6 27	6 36	6 45	6 56	7 8	7 22
	20	5 37	5 54	6 14	6 35	6 48	7 3	7 20	7 42	7 53	8 4	8 18	8 34	8 53
	21	6 32	6 51	7 12	7 36	7 50	8 6	8 25	8 49	9 1	9 14	9 30	9 48	10 10
	22	7 27	7 46	8 7	8 31	8 45	9 2	9 21	9 46	9 57	10 10	10 26	10 44	11 6
	23	8 20	8 38	8 58	9 21	9 34	9 50	10 8	10 30	10 41	10 53	11 7	11 24	11 43
	24	9 10	9 27	9 44	10 4	10 16	10 30	10 46	11 5	11 14	11 24	11 36	11 49	12 5
	25	9 58	10 12	10 26	10 43	10 52	11 4	11 17	11 32	11 40	11 48	11 57	12 7	12 19
	26	10 42	10 53	11 4	11 17	11 24	11 33	11 42	11 54	11 59	12 5	12 12	12 19	12 27
	27	11 24	11 32	11 39	11 48	11 52	11 58	12 5	12 12	12 16	12 20	12 24	12 28	12 34
	28	12 6	12 9	12 13	12 17	12 19	12 23	12 25	12 28	12 30	12 32	12 34	12 36	12 39
	29	12 46	12 46	12 46	12 45	12 45	12 45	12 44	12 44	12 44	12 44	12 44	12 44	12 43
	30	13 27	13 23	13 19	13 14	13 11	13 8	13 5	13 0	12 58	12 56	12 54	12 51	12 48
	31	14 10	14 3	13 54	13 45	13 39	13 33	13 26	13 18	13 14	13 9	13 4	12 59	12 53
June	1	14 56	14 45	14 33	14 19	14 11	14 2	13 51	13 38	13 32	13 25	13 18	13 10	13 0
	2	15 46	15 32	15 16	14 57	14 47	14 34	14 20	14 3	13 55	13 46	13 36	13 24	13 11
	3	16 40	16 23	16 4	15 42	15 30	15 15	14 58	14 36	14 26	14 15	14 2	13 47	13 29
	4	17 38	17 19	16 58	16 35	16 20	16 4	15 45	15 21	15 9	14 56	14 40	14 22	14 0
	5	18 39	18 20	17 59	17 34	17 20	17 4	16 44	16 19	16 7	15 53	15 37	15 18	14 55
	6	19 40	19 22	19 2	18 40	18 27	18 11	17 53	17 30	17 19	17 7	16 52	16 36	16 15
	7	20 39	20 24	20 7	19 48	19 37	19 24	19 9	18 50	18 42	18 31	18 20	18 7	17 52
	8	21 36	21 24	21 11	20 57	20 49	20 39	20 28	20 14	20 8	20 1	19 52	19 43	19 33
	9	22 29	22 21	22 13	22 4	21 59	21 53	21 46	21 37	21 34	21 29	21 24	21 19	21 13
	10	23 19	23 16	23 13	23 10	23 8	23 5	23 2	22 59	22 57	22 56	22 54	22 52	22 49
	11	...	...	...	...	...	...	...	...	...	...	...	...	...
	12	0 8	0 10	0 12	0 13	0 15	0 16	0 17	0 19	0 20	0 21	0 22	0 23	0 24
	13	0 57	1 3	1 9	1 16	1 21	1 26	1 31	1 38	1 41	1 44	1 48	1 52	1 57
	14	1 46	1 56	2 7	2 20	2 27	2 35	2 44	2 56	3 2	3 8	3 14	3 22	3 31
	15	2 37	2 51	3 6	3 23	3 32	3 44	3 57	4 14	4 21	4 30	4 40	4 51	5 4
	16	3 30	3 46	4 4	4 25	4 37	4 51	5 8	5 28	5 38	5 49	6 2	6 16	6 34
	17	4 24	4 42	5 2	5 26	5 39	5 55	6 14	6 37	6 48	7 1	7 16	7 34	7 55
	18	5 18	5 37	5 58	6 22	6 36	6 53	7 12	7 37	7 49	8 2	8 18	8 36	8 59
	19	6 11	6 30	6 51	7 14	7 28	7 44	8 3	8 26	8 37	8 50	9 5	9 22	9 43
	20	7 3	7 20	7 39	8 0	8 12	8 27	8 43	9 4	9 14	9 25	9 38	9 52	10 9
	21	7 51	8 6	8 22	8 40	8 51	9 3	9 17	9 34	9 42	9 51	10 1	10 12	10 26
	22	8 37	8 49	9 2	9 16	9 24	9 34	9 44	9 58	10 4	10 10	10 18	10 26	10 36
	23	9 20	9 29	9 38	9 48	9 54	10 0	10 8	10 17	10 21	10 26	10 31	10 36	10 43
	24	10 2	10 6	10 12	10 17	10 21	10 25	10 29	10 34	10 36	10 39	10 42	10 45	10 49
	25	10 42	10 43	10 44	10 46	10 47	10 48	10 48	10 50	10 50	10 51	10 52	10 52	10 53
	26	11 22	11 20	11 17	11 14	11 12	11 10	11 8	11 5	11 4	11 2	11 1	10 59	10 57
	27	12 4	11 58	11 51	11 43	11 39	11 34	11 28	11 22	11 19	11 15	11 11	11 7	11 2
	28	12 48	12 38	12 27	12 15	12 8	12 0	11 51	11 40	11 35	11 29	11 23	11 16	11 9
	29	13 35	13 22	13 7	12 51	12 41	12 30	12 18	12 2	11 55	11 47	11 38	11 28	11 17
	30	14 26	14 10	13 52	13 32	13 20	13 7	12 51	12 31	12 22	12 12	12 0	11 47	11 31
July	1	15 22	15 3	14 43	14 20	14 7	13 51	13 32	13 9	12 58	12 46	12 31	12 15	11 54
	2	16 21	16 2	15 41	15 16	15 2	14 45	14 26	14 0	13 48	13 35	13 19	13 0	12 36

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1917.

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To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
July	1	2 55	3 13	3 32	3 54	4 7	4 22	4 39	5 2	5 12	5 25	5 39	5 55	6 15
	2	3 53	4 12	4 33	4 57	5 11	5 28	5 47	6 12	6 24	6 38	6 54	7 12	7 36
	3	4 54	5 13	5 34	5 58	6 12	6 29	6 48	7 13	7 25	7 39	7 54	8 13	8 35
	4	5 56	6 14	6 33	6 55	7 8	7 23	7 41	8 2	8 13	8 25	8 38	8 54	9 12
	5	6 56	7 11	7 27	7 46	7 56	8 9	8 23	8 41	8 48	8 58	9 8	9 19	9 33
	6	7 54	8 5	8 17	8 31	8 39	8 47	8 58	9 10	9 16	9 22	9 29	9 37	9 46
	7	8 48	8 55	9 2	9 11	9 15	9 21	9 27	9 34	9 38	9 41	9 46	9 50	9 55
	8	9 40	9 42	9 45	9 48	9 49	9 51	9 53	9 55	9 56	9 57	9 58	10 0	10 2
	9	10 30	10 28	10 26	10 23	10 21	10 19	10 17	10 15	10 14	10 12	10 11	10 10	10 8
	10	11 20	11 13	11 6	10 58	10 53	10 48	10 42	10 35	10 31	10 28	10 24	10 19	10 14
	11	12 10	11 59	11 48	11 35	11 27	11 18	11 8	10 57	10 51	10 45	10 38	10 31	10 22
	12	13 1	12 47	12 31	12 14	12 4	11 52	11 39	11 22	11 14	11 6	10 56	10 46	10 33
	13	13 53	13 36	13 18	12 57	12 45	12 31	12 14	11 51	11 44	11 33	11 21	11 7	10 50
	14	14 47	14 28	14 8	13 44	13 31	13 15	12 56	12 33	12 22	12 9	11 54	11 38	11 17
	15	15 40	15 20	15 0	14 36	14 22	14 5	13 46	13 21	13 9	12 56	12 41	12 22	11 59
	16	16 33	16 14	15 54	15 30	15 17	15 1	14 42	14 18	14 7	13 54	13 39	13 22	13 0
	17	17 23	17 6	16 48	16 27	16 14	16 0	15 43	15 22	15 12	15 1	14 48	14 33	14 15
	18	18 11	17 56	17 41	17 23	17 13	17 1	16 47	16 29	16 21	16 12	16 1	15 50	15 36
	19	18 56	18 45	18 32	18 18	18 10	18 1	17 50	17 37	17 30	17 24	17 16	17 7	16 57
	20	19 39	19 31	19 22	19 13	19 7	19 1	18 53	18 44	18 40	18 35	18 30	18 25	18 18
	21	20 20	20 16	20 11	20 6	20 3	19 59	19 55	19 50	19 48	19 46	19 43	19 40	19 36
	22	21 0	21 0	20 59	20 58	20 58	20 57	20 56	20 56	20 55	20 55	20 55	20 54	20 54
	23	21 41	21 44	21 47	21 51	21 53	21 55	21 58	22 2	22 3	22 5	22 7	22 9	22 12
	24	22 22	22 29	22 37	22 45	22 50	22 55	23 2	23 9	23 13	23 17	23 21	23 26	23 32
	25	23 5	23 16	23 27	23 40	23 47	23 55	....	....	....	....	....	....	....
	26	23 52	....	....	....	....	....	0 5	0 17	0 23	0 29	0 36	0 44	0 53
	27	....	0 6	0 20	0 37	0 47	0 58	1 12	1 28	1 36	1 45	1 55	2 6	2 18
	28	0 42	0 59	1 17	1 37	1 49	2 3	2 20	2 40	2 50	3 1	3 14	3 28	3 46
	29	1 37	1 55	2 16	2 39	2 52	3 8	3 27	3 51	4 2	4 15	4 30	4 48	5 10
	30	2 35	2 55	3 16	3 40	3 54	4 11	4 31	4 56	5 8	5 22	5 38	5 57	6 20
Aug.	31	3 36	3 55	4 15	4 38	4 52	5 8	5 27	5 50	6 2	6 14	6 29	6 46	7 7
	1	4 37	4 54	5 12	5 32	5 44	5 58	6 14	6 34	6 43	6 54	7 6	7 19	7 35
	2	5 37	5 50	6 4	6 20	6 30	6 40	6 53	7 8	7 15	7 23	7 32	7 41	7 52
	3	6 34	6 43	6 53	7 4	7 10	7 17	7 26	7 35	7 40	7 45	7 50	7 56	8 3
	4	7 29	7 33	7 38	7 43	7 46	7 50	7 53	7 58	8 0	8 3	8 5	8 8	8 11
	5	8 22	8 21	8 21	8 20	8 20	8 20	8 20	8 19	8 19	8 19	8 18	8 18	8 18
	6	9 13	9 8	9 3	8 57	8 53	8 49	8 45	8 39	8 37	8 34	8 32	8 29	8 25
	7	10 4	9 55	9 45	9 34	9 27	9 20	9 12	9 1	8 57	8 52	8 46	8 38	8 32
	8	10 56	10 43	10 29	10 13	10 4	9 54	9 41	9 26	9 19	9 12	9 3	8 54	8 43
	9	11 49	11 33	11 16	10 56	10 44	10 31	10 15	9 56	9 47	9 37	9 26	9 11	8 58
	10	12 43	12 25	12 5	11 42	11 29	11 14	10 56	10 33	10 22	10 10	9 56	9 40	9 21
	11	13 37	13 17	12 57	12 33	12 19	12 2	11 43	11 19	11 7	10 54	10 38	10 20	9 57
	12	14 29	14 10	13 50	13 26	13 12	12 56	12 37	12 13	12 2	11 48	11 33	11 15	10 53
	13	15 20	15 2	14 43	14 22	14 9	13 54	13 36	13 14	13 4	12 52	12 38	12 22	12 3
	14	16 8	15 53	15 36	15 18	15 6	14 54	14 39	14 20	14 11	14 1	13 50	13 37	13 22
	15	16 54	16 42	16 28	16 13	16 4	15 54	15 42	15 27	15 20	15 13	15 4	14 54	14 43
	16	17 38	17 28	17 19	17 7	17 1	16 54	16 45	16 34	16 30	16 24	16 18	16 11	16 3

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH, 1917.

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To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
July	1	15 22	15 3	14 43	14 20	14 7	13 51	13 32	13 9	12 58	12 46	12 31	12 15	11 54
	2	16 21	16 2	15 41	15 16	15 2	14 45	14 26	14 0	13 48	13 35	13 19	13 0	12 36
	3	17 23	17 4	16 44	16 20	16 6	15 50	15 31	15 7	14 55	14 42	14 26	14 8	13 46
	4	18 25	18 8	17 50	17 29	17 17	17 3	16 46	16 25	16 15	16 4	15 51	15 36	15 18
	5	19 24	19 10	18 56	18 40	18 30	18 19	18 6	17 50	17 42	17 34	17 24	17 13	17 1
	6	20 20	20 11	20 1	19 50	19 44	19 36	19 27	19 17	19 12	19 6	19 0	18 53	18 46
	7	21 13	21 9	21 4	20 58	20 55	20 51	20 47	20 42	20 39	20 36	20 34	20 30	20 27
	8	22 4	22 4	22 4	22 4	22 4	22 4	22 5	22 5	22 5	22 5	22 5	22 5	22 4
	9	22 54	22 59	23 4	23 9	23 12	23 16	23 21	23 26	23 28	23 31	23 34	23 37	23 40
	10	23 44	23 53	....	....	....	....	....	....	....	....	....	....	....
	11	....	....	0 2	0 13	0 19	0 26	0 35	0 45	0 50	0 55	1 1	1 8	1 15
	12	0 34	0 47	1 2	1 16	1 25	1 36	1 48	2 3	2 10	2 18	2 27	2 37	2 48
	13	1 26	1 42	1 59	2 19	2 30	2 44	2 59	3 18	3 28	3 38	3 50	4 3	4 19
	14	2 19	2 37	2 57	3 20	3 33	3 48	4 6	4 29	4 40	4 52	5 7	5 24	5 44
	15	3 13	3 32	3 53	4 17	4 31	4 48	5 7	5 32	5 43	5 57	6 12	6 31	6 54
	16	4 6	4 25	4 46	5 10	5 24	5 40	5 59	6 23	6 35	6 48	7 3	7 21	7 43
	17	4 58	5 16	5 35	5 57	6 10	6 25	6 43	7 4	7 15	7 27	7 40	7 56	8 14
	18	5 47	6 3	6 20	6 39	6 50	7 3	7 18	7 37	7 45	7 55	8 6	8 19	8 33
	19	6 34	6 46	7 0	7 16	7 25	7 36	7 48	8 2	8 9	8 16	8 25	8 34	8 45
	20	7 17	7 27	7 37	7 49	7 56	8 4	8 12	8 23	8 28	8 33	8 39	8 46	8 53
	21	7 59	8 5	8 12	8 20	8 24	8 28	8 34	8 41	8 44	8 47	8 50	8 55	8 59
	22	8 40	8 42	8 45	8 48	8 50	8 52	8 54	8 57	8 58	8 59	9 1	9 2	9 4
	23	9 20	9 19	9 18	9 16	9 16	9 14	9 14	9 12	9 12	9 11	9 10	9 10	9 9
	24	10 1	9 56	9 51	9 45	9 41	9 37	9 33	9 28	9 25	9 23	9 20	9 16	9 13
	25	10 43	10 34	10 25	10 15	10 9	10 2	9 54	9 45	9 41	9 36	9 31	9 25	9 19
	26	11 27	11 16	11 3	10 48	10 40	10 30	10 19	10 5	9 59	9 52	9 44	9 36	9 26
	27	12 16	12 0	11 44	11 26	11 15	11 2	10 48	10 30	10 22	10 13	10 2	9 51	9 37
	28	13 8	12 50	12 31	12 9	11 56	11 42	11 24	11 3	10 53	10 41	10 28	10 13	9 55
	29	14 4	13 45	13 24	13 0	12 46	12 30	12 11	11 46	11 34	11 21	11 6	10 47	10 25
	30	15 4	14 44	14 24	13 59	13 45	13 28	13 9	12 44	12 32	12 18	12 2	11 43	11 20
Aug.	31	16 5	15 47	15 27	15 5	14 52	14 36	14 18	13 55	13 44	13 32	13 18	13 1	12 41
	1	17 6	16 50	16 34	16 15	16 4	15 51	15 36	15 18	15 9	14 59	14 48	14 35	14 21
	2	18 4	17 53	17 41	17 27	17 19	17 10	16 58	16 45	16 39	16 32	16 24	16 15	16 6
	3	19 0	18 54	18 46	18 38	18 33	18 28	18 21	18 13	18 10	18 6	18 1	17 56	17 51
	4	19 54	19 52	19 50	19 47	19 46	19 44	19 42	19 40	19 39	19 38	19 36	19 35	19 34
	5	20 46	20 49	20 52	20 55	20 57	20 59	21 2	21 5	21 6	21 8	21 10	21 11	21 13
	6	21 37	21 45	21 53	22 2	22 7	22 12	22 19	22 28	22 32	22 36	22 40	22 46	22 52
	7	22 29	22 41	22 53	23 7	23 14	23 24	23 35	23 49	23 55	....	....	....	....
	8	23 22	23 37	23 53	....	....	....	....	....	....	0 2	0 10	0 18	0 28
	9	....	....	....	0 12	0 22	0 34	0 49	1 7	1 16	1 25	1 36	1 48	2 3
	10	0 15	0 33	0 52	1 13	1 26	1 41	1 58	2 20	2 31	2 42	2 56	3 12	3 30
	11	1 9	1 28	1 48	2 12	2 26	2 42	3 1	3 26	3 37	3 50	4 6	4 24	4 46
	12	2 2	2 22	2 42	3 6	3 21	3 37	3 56	4 21	4 33	4 46	5 1	5 19	5 42
	13	2 54	3 13	3 32	3 55	4 9	4 24	4 42	5 5	5 16	5 28	5 42	5 58	6 18
	14	3 44	4 1	4 18	4 38	4 50	5 4	5 20	5 40	5 49	5 59	6 11	6 24	6 40
	15	4 31	4 45	5 0	5 17	5 27	5 38	5 51	6 7	6 14	6 22	6 32	6 42	6 54
	16	5 16	5 27	5 38	5 51	5 59	6 7	6 17	6 29	6 35	6 41	6 48	6 55	7 4

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1917.

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For other longitudes and for southern latitudes see page 42.

Date.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Aug.	16	17 38	17 28	17 19	17 7	17 1	16 54	16 45	16 34	16 30	16 24	16 18	16 11	16 3
	17	18 19	18 14	18 8	18 1	17 57	17 52	17 47	17 41	17 38	17 34	17 31	17 27	17 23
	18	19 0	18 58	18 56	18 53	18 52	18 50	18 49	18 46	18 46	18 44	18 43	18 42	18 40
	19	19 40	19 42	19 44	19 46	19 47	19 48	19 51	19 52	19 53	19 54	19 55	19 56	19 58
	20	20 21	20 26	20 32	20 39	20 42	20 47	20 52	20 58	21 1	21 4	21 8	21 12	21 16
	21	21 3	21 12	21 22	21 33	21 39	21 47	21 55	22 6	22 11	22 16	22 22	22 29	22 36
	22	21 48	22 0	22 14	22 29	22 38	22 48	23 0	23 15	23 22	23 29	23 38	23 48	23 59
	23	22 35	22 51	23 8	23 27	23 38	23 51	...	0 6	0 25	0 34	0 44	0 56	1 9
	24	23 27	23 45	...	...	...	...	0 6	0 25	0 34	0 44	0 56	1 9	1 24
	25	...	...	0 4	0 26	0 39	0 54	1 12	1 35	1 45	1 57	2 12	2 28	2 48
	26	0 22	0 41	1 2	1 26	1 40	1 56	2 16	2 40	2 52	3 5	3 21	3 40	4 2
	27	1 20	1 39	2 0	2 23	2 38	2 54	3 13	3 37	3 49	4 2	4 18	4 36	4 58
	28	2 19	2 37	2 56	3 18	3 31	3 46	4 3	4 25	4 35	4 47	5 0	5 16	5 34
	29	3 18	3 33	3 50	4 8	4 19	4 31	4 46	5 3	5 11	5 20	5 30	5 42	5 56
	30	4 16	4 27	4 39	4 53	5 1	5 10	5 20	5 33	5 39	5 45	5 52	6 0	6 9
	31	5 12	5 19	5 26	5 34	5 39	5 45	5 51	5 58	6 2	6 5	6 9	6 14	6 19
Sept.	1	6 6	6 8	6 11	6 13	6 15	6 16	6 18	6 21	6 22	6 23	6 24	6 25	6 27
	2	7 0	6 57	6 54	6 51	6 49	6 47	6 45	6 42	6 41	6 39	6 38	6 36	6 34
	3	7 53	7 46	7 38	7 29	7 24	7 18	7 12	7 4	7 0	6 57	6 52	6 48	6 42
	4	8 46	8 35	8 23	8 9	8 1	7 52	7 41	7 28	7 22	7 16	7 9	7 1	6 52
	5	9 41	9 26	9 10	8 52	8 41	8 29	8 15	7 57	7 49	7 40	7 30	7 18	7 5
	6	10 36	10 18	10 0	9 38	9 25	9 11	8 54	8 33	8 23	8 12	7 59	7 44	7 26
	7	11 31	11 12	10 52	10 28	10 14	9 58	9 40	9 16	9 5	8 52	8 37	8 20	7 59
	8	12 25	12 6	11 45	11 21	11 7	10 51	10 32	10 8	9 56	9 43	9 28	9 10	8 48
	9	13 17	12 58	12 39	12 17	12 4	11 48	11 30	11 8	10 57	10 45	10 31	10 14	9 55
	10	14 6	13 50	13 32	13 12	13 1	12 48	12 32	12 12	12 3	11 52	11 41	11 27	11 11
	11	14 52	14 39	14 24	14 8	13 58	13 48	13 34	13 19	13 11	13 3	12 54	12 43	12 30
	12	15 36	15 26	15 15	15 3	14 55	14 47	14 38	14 26	14 20	14 14	14 7	14 0	13 51
	13	16 18	16 12	16 4	15 56	15 51	15 46	15 39	15 32	15 28	15 25	15 20	15 15	15 10
	14	16 59	16 56	16 53	16 49	16 47	16 44	16 41	16 38	16 36	16 34	16 32	16 30	16 28
	15	17 40	17 40	17 41	17 41	17 42	17 42	17 43	17 43	17 44	17 44	17 44	17 45	17 45
	16	18 20	18 25	18 29	18 34	18 37	18 41	18 45	18 49	18 52	18 54	18 57	19 0	19 3
	17	19 2	19 10	19 19	19 28	19 34	19 40	19 48	19 57	20 1	20 5	20 10	20 16	20 23
	18	19 46	19 58	20 10	20 24	20 32	20 41	20 52	21 5	21 11	21 18	21 26	21 35	21 44
	19	20 33	20 47	21 3	21 21	21 31	21 43	21 57	22 15	22 23	22 32	22 43	22 54	23 8
	20	21 23	21 40	21 58	22 19	22 32	22 46	23 3	23 24	23 34	23 45	23 58	...	...
	21	22 16	22 34	22 54	23 18	23 31	23 47	...	...	...	...	...	0 14	0 32
	22	23 11	23 30	23 51	...	...	...	0 6	0 30	0 41	0 54	...	1 9	1 26
	23	...	...	...	0 14	0 29	0 45	1 4	1 28	1 40	1 53	2 9	2 27	2 49
	24	0 8	0 26	0 46	1 9	1 22	1 37	1 55	2 18	2 29	2 41	2 55	3 11	3 31
	25	1 5	1 21	1 39	1 58	2 10	2 24	2 39	2 58	3 7	3 17	3 29	3 42	3 57
	26	2 2	2 14	2 28	2 44	2 53	3 4	3 16	3 30	3 37	3 45	3 53	4 3	4 14
	27	2 56	3 5	3 15	3 26	3 32	3 39	3 48	3 57	4 2	4 7	4 12	4 18	4 25
	28	3 50	3 55	4 0	4 5	4 8	4 12	4 15	4 20	4 23	4 25	4 28	4 31	4 34
	29	4 43	4 43	4 43	4 43	4 43	4 43	4 42	4 42	4 42	4 42	4 42	4 42	4 42
Oct.	30	5 37	5 32	5 27	5 21	5 17	5 14	5 9	5 4	5 2	4 59	4 56	4 53	4 50
	1	6 31	6 22	6 12	6 0	5 54	5 46	5 38	5 28	5 23	5 18	5 13	5 6	4 59

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH,
1917.

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For other longitudes and for southern latitudes see page 42.

Lat. Date.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
Aug. 16	h m 5 16	h m 5 27	h m 5 38	h m 5 51	h m 5 59	h m 6 7	h m 6 17	h m 6 29	h m 6 35	h m 6 41	h m 6 48	h m 6 55	h m 7 4
17	5 58	6 6	6 13	6 22	6 27	6 33	6 40	6 48	6 52	6 55	7 0	7 5	7 10
18	6 39	6 43	6 47	6 52	6 54	6 57	7 0	7 5	7 6	7 8	7 10	7 13	7 16
19	7 19	7 20	7 20	7 20	7 20	7 20	7 20	7 20	7 20	7 20	7 20	7 20	7 21
20	8 0	7 56	7 52	7 48	7 46	7 43	7 40	7 36	7 34	7 32	7 30	7 28	7 25
21	8 41	8 34	8 26	8 18	8 13	8 7	8 0	7 52	7 49	7 45	7 41	7 35	7 30
22	9 24	9 14	9 2	8 49	8 42	8 33	8 23	8 11	8 6	8 0	7 53	7 46	7 37
23	10 10	9 56	9 42	9 25	9 15	9 3	8 50	8 34	8 27	8 18	8 9	7 59	7 47
24	11 0	10 43	10 26	10 5	9 53	9 39	9 23	9 3	8 54	8 43	8 31	8 18	8 2
25	11 53	11 34	11 14	10 51	10 38	10 22	10 4	9 41	9 30	9 17	9 3	8 46	8 26
26	12 49	12 30	12 9	11 45	11 31	11 14	10 55	10 30	10 18	10 5	9 49	9 30	9 8
27	13 48	13 29	13 9	12 46	12 32	12 16	11 57	11 33	11 22	11 8	10 53	10 35	10 14
28	14 47	14 30	14 13	13 52	13 40	13 26	13 9	12 48	12 38	12 27	12 15	12 0	11 42
29	15 46	15 32	15 18	15 1	14 52	14 41	14 28	14 11	14 4	13 55	13 46	13 35	13 22
30	16 43	16 34	16 24	16 12	16 6	15 58	15 50	15 39	15 34	15 28	15 22	15 15	15 7
Sept. 31	17 38	17 33	17 28	17 23	17 20	17 16	17 12	17 6	17 4	17 1	16 58	16 55	16 51
1	18 32	18 32	18 32	18 32	18 33	18 33	18 33	18 33	18 34	18 34	18 34	18 34	18 34
2	19 25	19 30	19 35	19 42	19 45	19 49	19 54	19 59	20 2	20 5	20 8	20 12	20 16
3	20 18	20 28	20 38	20 50	20 56	21 4	21 13	21 24	21 29	21 35	21 41	21 48	21 56
4	21 12	21 26	21 40	21 57	22 6	22 17	22 31	22 46	22 54	23 2	23 12	23 23	23 35
5	22 7	22 24	22 42	23 2	23 14	23 28	23 44	...	...	...	...	...	...
6	23 2	23 21	23 40	...	...	...	...	0 4	0 14	0 25	0 37	0 52	1 9
7	23 57	...	...	0 4	0 17	0 33	0 51	1 15	1 26	1 38	1 53	2 10	2 31
8	...	0 16	0 37	1 1	1 15	1 31	1 50	2 15	2 26	2 40	2 55	3 13	3 35
9	0 50	1 9	1 29	1 52	2 6	2 21	2 40	3 3	3 14	3 26	3 41	3 58	4 18
10	1 41	1 58	2 16	2 37	2 50	3 4	3 20	3 41	3 50	4 1	4 14	4 28	4 45
11	2 29	2 44	2 59	3 17	3 28	3 40	3 54	4 11	4 19	4 28	4 37	4 49	5 2
12	3 14	3 26	3 38	3 53	4 1	4 10	4 21	4 34	4 40	4 47	4 55	5 3	5 12
13	3 57	4 6	4 14	4 25	4 31	4 38	4 45	4 54	4 59	5 3	5 8	5 14	5 20
14	4 39	4 44	4 49	4 55	4 58	5 2	5 6	5 12	5 14	5 17	5 20	5 23	5 26
15	5 19	5 20	5 22	5 23	5 24	5 25	5 26	5 28	5 28	5 29	5 30	5 31	5 32
16	6 0	5 57	5 55	5 52	5 50	5 48	5 46	5 44	5 42	5 41	5 40	5 38	5 37
17	6 41	6 35	6 28	6 21	6 17	6 12	6 7	6 0	5 58	5 54	5 50	5 46	5 42
18	7 24	7 14	7 4	6 52	6 46	6 38	6 29	6 19	6 14	6 9	6 3	5 56	5 49
19	8 9	7 56	7 42	7 26	7 17	7 7	6 55	6 40	6 34	6 26	6 18	6 8	5 58
20	8 57	8 41	8 24	8 5	7 54	7 41	7 26	7 7	6 59	6 49	6 38	6 26	6 11
21	9 48	9 30	9 11	8 49	8 36	8 21	8 4	7 42	7 31	7 20	7 6	6 51	6 32
22	10 42	10 23	10 2	9 39	9 25	9 9	8 50	8 26	8 15	8 2	7 47	7 29	7 7
23	11 38	11 19	10 59	10 35	10 21	10 6	9 46	9 22	9 11	8 58	8 42	8 24	8 2
24	12 35	12 18	11 59	11 37	11 24	11 10	10 52	10 30	10 20	10 8	9 54	9 39	9 19
25	13 32	13 17	13 1	12 43	12 32	12 20	12 5	11 47	11 39	11 29	11 18	11 6	10 52
26	14 28	14 16	14 4	13 51	13 43	13 34	13 23	13 10	13 3	12 57	12 49	12 40	12 31
27	15 22	15 15	15 8	14 59	14 54	14 49	14 42	14 34	14 31	14 27	14 22	14 17	14 11
28	16 15	16 13	16 11	16 8	16 6	16 4	16 2	16 0	15 58	15 57	15 56	15 54	15 52
29	17 8	17 11	17 14	17 17	17 18	17 20	17 23	17 26	17 27	17 28	17 30	17 32	17 34
30	18 2	18 9	18 17	18 26	18 31	18 36	18 43	18 51	18 55	18 59	19 4	19 9	19 15
Oct. 1	18 57	19 8	19 20	19 35	19 43	19 52	20 3	20 16	20 23	20 30	20 38	20 46	20 56

LOCAL ASTRONOMICAL MEAN TIME OF MOONRISE, MERIDIAN OF GREENWICH, 1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Data.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Oct.	1	6 31	6 22	6 12	6 0	5 54	5 46	5 38	5 28	5 23	5 18	5 13	5 6	4 59
	2	7 26	7 13	6 59	6 43	6 33	6 23	6 10	5 55	5 48	5 41	5 32	5 23	5 12
	3	8 22	8 6	7 49	7 29	7 17	7 4	6 48	6 29	6 20	6 10	5 58	5 45	5 30
	4	9 19	9 1	8 42	8 19	8 6	7 50	7 32	7 10	6 59	6 47	6 33	6 17	5 58
	5	10 16	9 56	9 36	9 13	8 59	8 43	8 24	8 0	7 49	7 36	7 21	7 4	6 42
	6	11 9	10 51	10 31	10 8	9 55	9 40	9 22	8 59	8 48	8 35	8 21	8 4	7 44
	7	12 1	11 44	11 26	11 5	10 53	10 40	10 23	10 2	9 53	9 42	9 29	9 15	8 58
	8	12 49	12 34	12 19	12 2	11 51	11 40	11 26	11 9	11 1	10 52	10 42	10 30	10 17
	9	13 34	13 22	13 10	12 56	12 49	12 40	12 29	12 16	12 10	12 3	11 55	11 47	11 37
	10	14 16	14 8	14 0	13 50	13 45	13 38	13 31	13 22	13 18	13 14	13 9	13 3	12 56
	11	14 58	14 53	14 48	14 43	14 40	14 37	14 33	14 28	14 26	14 23	14 21	14 17	14 14
	12	15 38	15 37	15 37	15 36	15 35	15 35	15 34	15 33	15 33	15 33	15 32	15 32	15 32
	13	16 19	16 22	16 25	16 28	16 31	16 33	16 36	16 39	16 41	16 42	16 44	16 46	16 49
	14	17 1	17 7	17 14	17 22	17 27	17 32	17 39	17 46	17 50	17 54	17 58	18 2	18 8
	15	17 44	17 55	18 6	18 18	18 25	18 33	18 43	18 55	19 0	19 6	19 13	19 21	19 29
	16	18 30	18 43	18 58	19 15	19 25	19 36	19 49	20 5	20 12	20 21	20 30	20 41	20 54
	17	19 20	19 36	19 54	20 14	20 25	20 39	20 55	21 14	21 24	21 34	21 46	22 0	22 17
	18	20 12	20 30	20 50	21 12	21 26	21 41	21 59	22 22	22 32	22 45	22 59	23 16	23 36
	19	21 7	21 26	21 46	22 10	22 24	22 40	22 59	23 23	23 34	23 47	...	...	...
	20	22 3	22 21	22 41	23 4	23 18	23 33	23 52	....	....	....	0 2	0 20	0 42
	21	22 59	23 16	23 34	23 54	....	....	....	0 14	0 25	0 38	0 52	1 9	1 28
	22	23 54	....	....	....	0 6	0 20	0 36	0 57	1 6	1 17	1 29	1 43	1 59
	23	....	0 8	0 23	0 40	0 50	1 1	1 15	1 31	1 38	1 46	1 56	2 6	2 19
	24	0 48	0 58	1 9	1 22	1 29	1 37	1 47	1 58	2 4	2 10	2 16	2 23	2 31
	25	1 40	1 46	1 53	2 0	2 4	2 10	2 15	2 22	2 25	2 28	2 32	2 37	2 41
	26	2 31	2 33	2 35	2 37	2 38	2 40	2 42	2 44	2 44	2 46	2 46	2 48	2 49
	27	3 22	3 20	3 17	3 14	3 12	3 10	3 7	3 4	3 4	3 2	3 1	2 59	2 57
	28	4 15	4 8	4 0	3 52	3 47	3 41	3 35	3 27	3 24	3 20	3 16	3 11	3 6
	29	5 9	4 58	4 46	4 32	4 24	4 15	4 5	3 53	3 47	3 41	3 34	3 26	3 17
	30	6 5	5 50	5 35	5 17	5 6	4 54	4 40	4 23	4 15	4 6	3 57	3 45	3 32
Nov.	31	7 3	6 46	6 27	6 6	5 53	5 39	5 22	5 1	4 51	4 40	4 28	4 13	3 56
	1	8 1	7 42	7 22	6 59	6 45	6 30	6 11	5 48	5 37	5 24	5 10	4 53	4 33
	2	8 57	8 38	8 18	7 55	7 42	7 26	7 8	6 44	6 33	6 20	6 6	5 49	5 27
	3	9 51	9 33	9 15	8 53	8 41	8 26	8 9	7 48	7 38	7 26	7 13	6 58	6 39
	4	10 41	10 26	10 10	9 51	9 40	9 28	9 13	8 55	8 46	8 37	8 26	8 13	7 59
	5	11 28	11 16	11 2	10 48	10 39	10 29	10 17	10 3	9 56	9 48	9 40	9 30	9 20
	6	12 12	12 3	11 53	11 42	11 36	11 29	11 20	11 10	11 5	11 0	10 54	10 48	10 40
	7	12 54	12 48	12 42	12 36	12 32	12 27	12 22	12 16	12 13	12 10	12 6	12 2	11 58
	8	13 35	13 33	13 30	13 28	13 27	13 25	13 24	13 21	13 20	13 19	13 18	13 17	13 15
	9	14 15	14 17	14 18	14 21	14 22	14 23	14 24	14 26	14 27	14 28	14 29	14 30	14 32
	10	14 56	15 2	15 7	15 14	15 18	15 22	15 27	15 33	15 36	15 39	15 42	15 46	15 50
	11	15 40	15 48	15 58	16 9	16 15	16 22	16 31	16 41	16 46	16 51	16 57	17 4	17 11
	12	16 25	16 37	16 51	17 6	17 14	17 24	17 36	17 51	17 58	18 5	18 13	18 23	18 34
	13	17 14	17 29	17 46	18 4	18 15	18 28	18 43	19 2	19 10	19 20	19 31	19 44	19 59
	14	18 6	18 24	18 42	19 4	19 17	19 32	19 49	20 11	20 21	20 33	20 47	21 2	21 21
	15	19 1	19 20	19 40	20 3	20 17	20 32	20 52	21 15	21 26	21 39	21 54	22 12	22 33
	16	19 58	20 16	20 36	21 0	21 13	21 29	21 48	22 11	22 22	22 35	22 49	23 6	23 27

TABLE III.

LOCAL ASTRONOMICAL MEAN TIME OF MOONSET, MERIDIAN OF GREENWICH,
1917.

To obtain civil time, write P. M. after the astronomical time if it is less than twelve hours; if greater than twelve hours, subtract twelve hours from it, mark the result A. M., and add one to the day.

To obtain standard time, see directions on page 8.

For other longitudes and for southern latitudes see page 42.

Dats.	Lat.	0°	+10°	+20°	+30°	+35°	+40°	+45°	+50°	+52°	+54°	+56°	+58°	+60°
		h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
Oct.	1	18 57	19 8	19 20	19 35	19 43	19 52	20 3	20 16	20 23	20 30	20 38	20 46	20 56
	2	19 53	20 8	20 24	20 43	20 54	21 6	21 21	21 39	21 47	21 57	22 8	22 20	22 35
	3	20 50	21 7	21 26	21 48	22 1	22 16	22 33	22 55	23 5	23 17	23 31	23 46	...
	4	21 46	22 5	22 26	22 49	23 3	23 19	23 38	...	...	...	...	...	0 5
	5	22 42	23 1	23 21	23 44	23 58	...	...	0 1	0 13	0 26	0 41	0 58	1 20
	6	23 34	23 52	...	...	...	0 14	0 32	0 56	1 7	1 20	1 34	1 51	2 12
	7	...	...	0 11	0 33	0 45	1 0	1 17	1 38	1 49	2 0	2 13	2 28	2 46
	8	0 24	0 40	0 56	1 15	1 26	1 39	1 54	2 12	2 20	2 29	2 40	2 52	3 6
	9	1 11	1 24	1 37	1 52	2 1	2 12	2 23	2 38	2 44	2 52	3 0	3 9	3 20
	10	1 55	2 4	2 14	2 26	2 32	2 40	2 49	2 59	3 4	3 9	3 15	3 22	3 29
	11	2 37	2 43	2 49	2 56	3 1	3 5	3 11	3 17	3 20	3 24	3 27	3 31	3 36
	12	3 17	3 20	3 22	3 26	3 27	3 29	3 32	3 34	3 35	3 37	3 38	3 40	3 42
	13	3 58	3 57	3 56	3 54	3 53	3 52	3 51	3 50	3 49	3 49	3 48	3 48	3 47
	14	4 39	4 34	4 29	4 23	4 20	4 16	4 12	4 7	4 5	4 2	3 59	3 56	3 53
	15	5 22	5 13	5 4	4 54	4 49	4 42	4 34	4 25	4 21	4 16	4 11	4 6	3 59
	16	6 6	5 55	5 42	5 28	5 20	5 10	4 59	4 46	4 40	4 33	4 26	4 17	4 8
	17	6 54	6 39	6 24	6 6	5 55	5 43	5 29	5 12	5 4	4 55	4 45	4 34	4 20
	18	7 45	7 28	7 9	6 48	6 36	6 22	6 5	5 44	5 34	5 23	5 11	4 56	4 39
	19	8 38	8 20	8 0	7 37	7 23	7 8	6 49	6 26	6 15	6 2	5 48	5 31	5 10
	20	9 34	9 15	8 54	8 31	8 17	8 1	7 42	7 18	7 7	6 54	6 39	6 21	5 59
	21	10 30	10 12	9 53	9 31	9 18	9 3	8 44	8 22	8 11	7 59	7 45	7 29	7 9
	22	11 26	11 10	10 53	10 34	10 22	10 9	9 54	9 35	9 26	9 15	9 4	8 51	8 35
	23	12 20	12 7	11 54	11 39	11 30	11 20	11 8	10 53	10 46	10 38	10 30	10 20	10 9
	24	13 12	13 4	12 55	12 44	12 38	12 32	12 23	12 14	12 9	12 4	11 58	11 52	11 45
	25	14 4	14 0	13 55	13 50	13 47	13 44	13 40	13 36	13 33	13 31	13 28	13 25	13 22
	26	14 55	14 56	14 56	14 57	14 57	14 57	14 57	14 58	14 58	14 58	14 58	14 58	14 59
	27	15 47	15 52	15 57	16 4	16 7	16 11	16 16	16 21	16 24	16 27	16 30	16 33	16 37
	28	16 39	16 50	17 0	17 11	17 18	17 25	17 34	17 45	17 50	17 55	18 2	18 8	18 16
	29	17 36	17 49	18 3	18 20	18 29	18 40	18 53	19 8	19 16	19 24	19 33	19 44	19 56
	30	18 33	18 49	19 7	19 27	19 39	19 52	20 8	20 28	20 38	20 48	21 1	21 15	21 31
Nov.	31	19 31	19 49	20 9	20 31	20 44	21 0	21 18	21 41	21 52	22 4	22 18	22 35	22 55
	1	20 28	20 47	21 7	21 30	21 44	22 0	22 19	22 42	22 54	23 6	23 21	23 38	...
	2	21 24	21 42	22 1	22 23	22 36	22 51	23 9	23 31	23 42	23 54	...	...	0 0
	3	22 18	22 32	22 49	23 9	23 21	23 34	23 50	...	...	...	0 7	0 23	0 42
	4	23 6	23 18	23 33	23 49	23 59	...	...	0 9	0 18	0 28	0 40	0 53	1 8
	5	23 50	...	...	...	...	0 10	0 23	0 39	0 46	0 54	1 3	1 13	1 25
	6	...	0 0	0 12	0 25	0 32	0 40	0 50	1 2	1 7	1 13	1 20	1 27	1 36
	7	0 33	0 40	0 47	0 56	1 2	1 7	1 14	1 22	1 25	1 29	1 34	1 38	1 44
	8	1 14	1 18	1 22	1 26	1 29	1 32	1 35	1 39	1 41	1 43	1 45	1 48	1 50
	9	1 54	1 54	1 55	1 55	1 55	1 55	1 55	1 55	1 56	1 56	1 56	1 56	1 56
	10	2 35	2 32	2 28	2 24	2 21	2 19	2 16	2 12	2 10	2 8	2 6	2 4	2 1
	11	3 17	3 10	3 3	2 54	2 49	2 44	2 37	2 30	2 26	2 22	2 18	2 13	2 8
	12	4 1	3 51	3 40	3 27	3 20	3 11	3 1	2 50	2 44	2 38	2 32	2 24	2 16
	13	4 48	4 35	4 20	4 3	3 54	3 42	3 30	3 14	3 6	2 58	2 49	2 39	2 27
	14	5 39	5 22	5 5	4 45	4 33	4 19	4 4	3 44	3 35	3 25	3 13	3 0	2 44
	15	6 32	6 14	5 55	5 32	5 19	5 4	4 46	4 24	4 13	4 1	3 47	3 31	3 12
	16	7 28	7 9	6 49	6 26	6 12	5 56	5 37	5 14	5 2	4 49	4 34	4 17	3 55

